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# Interagency Task Force on Product Liability

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## PRODUCT LIABILITY:

### Final Report of the Legal Study—Volume IV

ITFPL-77/02

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# Interagency Task Force on Product Liability

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**Consumer Product Safety Commission**

# Interagency Task Force on Product Liability

THIS STUDY PREPARED BY:

THE RESEARCH GROUP, INC.
UNDER CONTRACT TO
THE U.S. DEPARTMENT OF COMMERCE
- Contract No. 6-36250 -

NOTE:

In partial fulfillment of its charter to conduct a study of products liability problems and to make recommendations thereon, the Interagency Task Force on Product Liability, through the Department of Commerce, retained the services of independent contractors for research studies in the industry, insurance, and legal areas.

This product liability legal study has been prepared by the Research Group, Inc. and is released for publication to aid in a better understanding of the overall problem.

The findings, conclusions, opinions and recommendations expressed herein are those of the contractor and do not necessarily reflect the findings, conclusions, opinions or recommendations of the Task Force which are set forth in the report of the Interagency Task Force on Product Liability.

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## VOLUME IV

## Proposed Remedies for Product Liability System

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## A. Introduction

# VOLUME IV

## PROPOSED REMEDIES FOR PRODUCT LIABILITY SYSTEM

## INTRODUCTION

Volumes IV, V, VI and VII contain separate analyses of frequently proposed "remedies" to the present problems associated with products liability. These remedies consist of modifications of tort and insurance law, which are designed to address and correct the deficiencies of the existing products liability system.

In Volumes II and III, some effort was made to draw a basic distinction between those characteristics of the existing system which are chiefly responsible for the alleged unavailability or unaffordability of products liability insurance and those characteristics which result in inequitable treatment of the parties involved in the products liability litigation. It is important to reiterate here that the unavailability of insurance is not necessarily the result of inequities in the existing system, nor do the existing inequities all give rise to higher insurance costs. The "Major Findings" section of Volume III indicated that the most serious practical problems of products liability defendants have manifested themselves in the increasing cost of products liability insurance. As for plaintiffs, the chief deficiency of the existing system is the inadequate safety level of products it appears to tolerate.

The "Major Findings" section also elaborated on the apparent inequities of the existing system. From the defendant's perspective, perhaps the worst inequity arises from the general confusion and inconsistency in present products liability law. There are no uniform legal standards to guide the performance of manufacturers and sellers. A second generic inequity under existing law is that the manufacturer frequently bears the entire burden of liability even though other parties, particularly employers, may have been partly at fault. Similarly, plaintiffs experience problems caused by doctrines which do not apportion liability, thus creating an all-or-nothing situation in certain cases.

The purpose of this introduction is to assist the reader in assimilating the voluminous material contained in Volumes IV, V, VI and VII. The remedies discussed in these volumes are not distinct and isolated proposals. They form a complex network of interrelated measures. Several remedies may address the same problem, so that they should be regarded as alternative solutions. In other cases, the implementation of a remedy could not satisfactorily be accomplished without implementing others as well.

The in-depth analyses of the proposed remedies are organized according to the following categories:

A. Proposed Modifications in Products Liability Law:
   (1) Modifications That Retain the Tort-Litigation System;
   (2) Modifications That Abandon the Jury Trial.

B. Products Liability Prevention Techniques

C. Proposed Insurance Residual Market Mechanisms to Provide Products Liability Coverage.

While this is a useful categorization of the remedies, there are other ways in which the remedies can be grouped so as to aid analysis. It may be useful, therefore, to consider several additional groupings, each of which represents a different perspective.

## 1. Functional Analysis of Proposed Modifications of State Tort Law.

Instead of grouping remedies in conceptual subcategories of the tort-litigation system as is done in Volumes IV, V, VI and VII, it may be useful to analyze them from the pragmatic perspective of a defendant manufacturer. From this point of view, certain remedies are perceived to be the most desirable because they could entirely eliminate the manufacturer's liability in a particular case:

-Statutes of limitations
-Useful life limitation of liability
-State of the art defense
-Compliance with safety standards
-Indemnity
-Hold harmless clauses
-Workers' compensation as exclusive remedy.

A second group of remedies would not relieve the manufacturer of liability, but would permit the shifting of part of the burden to another party. Where the other party is the plaintiff's employer, the remedy will help the manufacturer but not necessarily the insurance company, since the effect is simply to shift part of the burden to another insured party. These remedies are:

- Basic standard of responsibility
- Comparative fault
- Misuse defense
- Contribution
- Modification of collateral source rule
- Prohibition of subrogation by workers' compensation carriers
- Workers' compensation as exclusive remedy (manufacturer joins employer in contributing to the fund).

The third category includes those remedies which would reduce the amount of damages recoverable by the plaintiff:

- No-fault
- Mandatory arbitration
- Limitation of pain and suffering damages
- Limitation of punitive damages
- Periodic payment of damages
- Modification of collateral source rule
- Attorneys' fees
- Regulation of expert testimony.

Periodic payments would reduce the damages because they replace a lump-sum award, which is calculated with reference to the plaintiff's life expectancy. If he dies prematurely, or is able to return to work, the lump-sum award becomes a windfall benefit. The regulation of expert testimony does not fit easily into any of the three categories, but might eliminate certain exaggerated claims.

### 2. Proposed Modifications of State Tort Law Which Extend Beyond the Products Liability Field

Some of the proposed tort modifications, such as the useful life defense, are, by their very nature, confined to the products liability context. The following remedies, however, would have a wider application unless specifically restricted to products liability:

-Attorneys' fees
-Regulation of expert testimony
-Periodic payments
-Limitation of pain and suffering damages
-Limitation of punitive damages
-No-fault
-Comparative fault
-Modification of collateral source rule.

### 3. Proposed Remedies Which Apply to Workplace Injuries

An important subcategory of the products liability field is the workplace injury. The principal distinguishing characteristic of this subcategory is that the situation is complicated by the presence of another party, the employer, who may have been negligent. The remedies specifically addressed to this situation are:

- -Indemnity and contribution
- -Hold harmless clauses
- -Workers' compensation as exclusive remedy
- -Prohibition of subrogation by workers' compensation carriers
- -Misuse defense (in cases where the employer removed safety devices, or otherwise altered the product).

## 4. Incentives and Disincentives to Product Safety

Some of the proposed remedies might give manufacturers an incentive to make their products safer. These are:

- -Compliance with safety standards
- -Captive insurance companies
- -Products liability prevention techniques.

Other remedies that would arguably weaken that incentive are:

- -No-fault
- -Workers' compensation as exclusive remedy
- -Useful life defense
- -State of the art defense
- -Statutes of limitation
- -Limitation of pain and suffering damages
- -Limitation of punitive damages.

## 5. Effect of Proposed Remedies on Plaintiff

Some of the proposed remedies reflect the notion that under the existing law the plaintiff enjoys several undeserved windfall benefits:

- Modification of collateral source rule
- Limitation of pain and suffering damages
- Limitation of punitive damages
- Periodic payments.

Other remedies, however, might be criticized as unfair to the plaintiff:

- Statues of limitation
- Compliance with safety standards
- Workers' compensation as exclusive remedy
- Arbitration.

In addition, any modification of the misuse defense, the award for pain and suffering, or the contingent fee arangement could prove unduly harsh to the plaintiff unless carried out with great sensitivity.

## 6. Proposed Remedies Recommended for Implementation *

Of the 30 remedies discussed, none can be regarded as a complete solution to the products liability problem.* Nevertheless, seven can be recommended as having advantages which, on balance, appear to outweigh their weaknesses. In respect to four of the remedies, however, even this recommendation must be qualified, since their implementation would prevent substantial difficulties. Of the remaining three, only two would effect a major change in the legal system:

- Comparative fault
- Indemnity and contribution.

The third--regulation of expert testimony--would be unlikely to have a significant practical impact on the tort system.

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* See note, page i.

Four remedies merit a qualified recommendation:*

- -Basic standard of responsibility
- -Hold harmless clauses
- -Joint Underwriting Associations with Federal Reinsurance
- -Captive Insurance Companies.

Nine other remedies, while having some merit, were also perceived to present problems which are sufficiently substantial to preclude their recommendation. They are deemed to require further study:*

- -Useful life defense
- -Statutes of limitation
- -Misuse defense
- -Limitation on pain and suffering
- -Limitation of punitive damages
- -Attorneys' fees
- -Modification of collateral source rule
- -Arbitration
- -Products liability prevention techniques.

The remaining remedies are not recommended.*

In Volumes II and III, it was indicated that a significant practical problem of the present system is the unavailability or unaffordability of products liability insurance. Two of the recommended remedies (JUAs and captive insurance companies) address this problem directly. Several others--as well as some for which further study is needed--are calculated to reduce the confusion and unpredictability which are important causes of the high cost of insurance. Thus, a better definition of the basic standard of responsbility may reduce confusion over the various theories of liability which now exist. The useful life defense and the modification of statutes of limitation may prevent imposition of open-ended liability for old products. The regulation of expert testimony and the use of arbitration may add consistency and professionalism to the fact-finding process in litigation.

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* See note, page i.

However, the inequites which flow from these particular aspects of the present law are not the most significant difficulty which the current system has produced. A more serious problem is the imposition of the sole burden of a product injury on a single party, in spite of the contributory fault of others. The two primary recommended remedies eliminate this inequity. The misuse defense, "hold harmless" clauses, and modification of the collateral source rule would have a similar effect.

## 7. Linkages Between Proposed Remedies

The interrelationship that exist among the various remedies are a matter of some importance to both plaintiffs and defendants. Often the implementation of a particular remedy could not be accomplsihed satisfactorily without implementing others as well. A brief introduction to these interconnections follows:

The basic standard of responsibility in products liability cases. This analysis discusses the existing confusion between breach of warranty, strict liability, and negligence and recommends that these theories be consolidated into a single cause of action based on a "fault" concept.* The remedy therefore impinges on all other remedies concerning negligence: the useful life defense; the defenses associated with compliance with standards; the state-of-the-art defense; the misuse defense; and comparative fault. The remedy is inconsistent with no-fault approaches, including the proposal that workers' compensation be the sole source of recovery. It may also be inconsistent with the mandatory arbitration proposal.

Useful life limitation on liability. This remedy addresses the problem of a manufacturer's liability for old products. Alternative approaches to the same problem are modification of the statute of limitations and the state-of-the-art defense.

Compliance with safety standards. There is a separate analysis of compliance with federal safety standards as a defense; the two remedies obviously overlap. Inasmuch as both remedies would establish compliance as conclusive proof of the absence of negligence or defect, they affect the basic standard of responsibility in products liability cases.

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*See note, page i.

In addition, since both would shield the manufacturer or seller from problems arising from misuse of the product, they are related to the misuse defense. Also, it has been suggested that this defense be incorporated into proposals for joint underwriting associations or state last resort funds.

Statutes of limitations. The proposal to modify statutes of limitations so as to terminate a manufacturer's liability for an old product is another approach to the same problem addressed by the useful life defense and the state-of-the-art defense.

State of the art defense. This remedy would require that the design of a product be judged according to the state of the art at the time that the product was marketed. As noted, it is related to the useful life defense and the statute of limitations remedy.

Establishment of a misuse defense. The extent to which the manufacturer or seller should be protected from liability in cases where the product was misused depends upon the basic standard of responsibility in products liability cases. Under a comparative fault system, liability is apportioned in cases involving foreseeable misuse. Misuse is irrelevant under a no-fault system, a system in which workers' compensation is the sole source of recovery, and perhaps under mandatory arbitration. The relationship between the misuse defense and the defense of compliance with safety standards has already been noted.

Comparative fault. Comparative fault obviously assumes a fault concept as the basic standard of responsibility, and is thus inconsistent with all no-fault remedies. This remedy is the mechanism for apportioning the burden of liability when more than one party was at fault; it is therefore closely related to the misuse defense (product user partly at fault); indemnity and contribution (plaintiff's employer partly at fault); and prohibition of subrogation by workers compensation carriers (employer partly at fault).

Regulation of expert testimony. Insofar as this remedy seeks to improve the objectivity and professional quality of expert testimony, it may be compared with arbitration, in which the jury is replaced by a panel of experts.

Attorneys' fees. This remedy would involve modifications of the contingent fee arrangement, which is universally used in products liability cases. Because of the close relationship between the contingent fee and the award of damages for pain and suffering, the two topics are intertwined and any change which affected pain and suffering would have an impact on attorneys' fees. Likewise, the proposal to replace lump-sum awards with periodic payments would complicate the collection of attorneys' fees.

Limitations on pain and suffering. Damages for pain and suffering would be eliminated as an element of the plaintiff's recovery, or sharply curtailed, under most no-fault approaches; the use of arbitration might also affect pain and suffering. The relationship between pain and suffering and attorneys' fees has already been noted. The proposal to replace lump-sum awards with periodic payments might affect the pain and suffering award.

Modification of the collateral source rule. Under this rule, the defendant is liable to the plaintiff even for losses which the latter has already recouped from another source, such as, for example, health insurance. The rule would be eliminated or modified under most no-fault approaches.

Punitive damages. The imposition of punitive damages reflects a judgment of fault, so that the proposal to limit punitive damages touches upon the basic standard of responsibility in products liability cases. No-fault systems often eliminate this element of recovery. It should also be pointed out that many products liability insurance policies do not cover punitive damages.

*Periodic payments*. The proposal to replace the lump-sum award of damages to the plaintiff with an equivalent stream of periodic payments reflects existing practice in many workers' compensation plans; thus, it is related to the proposal to make workers' compensation the sole source of recovery. The effect of periodic payments on the contingent fee and the award for pain and suffering has already been mentioned.

*Indemnity and contribution*. In the products liability context, these remedies might be an appropriate way for a manufacturer to shift all or some of the loss to the plaintiff's employer, in cases where the employer's negligence was wholly or partly the cause of the accident. An alternative method by which the manufacturer could secure indemnification by the employer is the use of "hold harmless" clauses in the sale of machine tools would insure that the manufacturer could obtain indemnity from the employer. A similar but broader remedy is the proposal to make workers' compensation the sole source of recovery.

*Prohibition of subrogation by workers' compensation carriers*. This remedy would prevent negligent employers or their insurers from being reimbursed by manufacturers for the payment of workers' compensation claims. Insofar as the remedy is addressed to the apportionment of damages between manufacturer and employer, it is related to comparative fault and indemnity and contribution. Making workers' compensation the sole source of recovery would accomplish similar results, since it would eliminate the plaintiff's cause of action against the manufacturer.

No-fault. A no-fault system in the products liability field would change the basic standard of responsibility and, by definition, eliminate the need for comparative fault; the misuse defense would also be inapplicable. The proposal to make workers' compensation the sole source of recovery is essentially a no-fault remedy as well. Most no-fault systems eliminate or restrict the collateral source rule, punitive damages, and the award for pain and suffering; the latter would have an effect of attorney's fees.

Making workers' compensation an exclusive remedy. As previously mentioned, this remedy is linked to several others: the basic standard of responsibility; no-fault in general; indemnity and contribution; prohibition of subrogation by workers' compensation carriers; "hold harmless" clauses; comparative fault; and periodic payments.

Arbitration. As previously mentioned, this remedy shares certain characteristics with the regulation of expert testimony. It might reduce pain and suffering awards and thereby affect attorneys' fees.

Assigned risk plans. Assigned risk plans, joint underwriting associations (JUAs), and last resort funds are alternative possible responses at the state level to the problem of unavailability of products liability insurance. JUAs and last resort funds can be implemented in conjunction with each other. Other responses to the same problem include the establishment of private-industry captive insurance companies; federally-chartered insurance; and federal reinsurance. Proposals for the implementation of state and federal insurance remedies often suggest accompanying modifications of tort law, such as the creation of a defense for compliance with safety standards.

Joint underwriting associations. (See discussion of assigned risk plans, above.)

Last resort funds. (See discussion of assigned risk plans, above.)

Captive insurance companies. (See discussion of assigned risk plans, above.)

Mandatory products liability insurance. This remedy, like the proposal of unsatisfied judgment funds, is addressed to the possibility that the high cost of products liability insurance might induce manufacturers to forego coverage, with the result that victims of product-related accidents would go uncompensated. If products liability insurance were made mandatory, the need for reinsurance mechanisms would increase.

Unsatisfied judgment funds. (See discussion of mandatory products liability insurance, above.)

Products liability prevention techniques. Increased emphasis on safety-implementation programs might also be encouraged by creating a defense for compliance with safety standards. The establishment of captive insurance companies within a particular industry could likewise foster greater product safety.

Uniform federal tort law of products liability. This remedy is addressed to the problems caused by inconsistencies between the tort law of different states with respect to the basic standard of responsibility in products liability cases. To the extent that those inconsistencies are a principal cause of the high cost of products liability insurance, this remedy might offset the need for the various insurance proposals discussed above. As for the substantive content of a uniform federal tort law in this area, the most that can be said is that it might incorporate a defense for compliance with federal safety standards.

Compliance with federal safety regulations defense. (See discussion of compliance with safety standards, above.)

Federally chartered insurance. (See discussion of assigned risk plans, above.)

Federal reinsurance. (See discussion of assigned risk plans, above.)

Volumes IV, V, VI, and VII begin with this introduction, which is followed by an Economic Analysis, for the reader who wishes to consider this approach, examining, in general terms, the economic implications of the existing system of products liability. After the Economic Analysis, the proposed remedies are individually discussed in depth.

## B. Economic Analysis

# AN ECONOMIC ANALYSIS

## I.

## Introduction

In its broadest form, the basic economic question with respect to products liability is if, how, and under what circumstances rules governing the assignment of liability affects the alternative uses to which limited resources will be put; and second, the distribution of wealth. These questions, in turn, revolve around how the assignment of liability affects the efficiency with which resources are used and how the costs of accidents are distributed among several parties or an entire class of accident cost-bearers.

## II.

## Production Externalities

The economics of accidents are but one aspect of the broader area economists refer to as "production externalities." These have to do with the distinction between "private" costs of production and the "social" costs of production. Private costs of production are those which the manufacturer either does not perceive or does not have to pay for, and so does *not* take into account. Accident costs fall in the category of "externalized" social costs.

For years, economists believed that a resource allocation problem arose when the private costs of production diverged from its social costs. When the alternative opportunity resource costs of production, as perceived by the manufacturer, were either greater or less than the reduction in the value of production associated with the application of the resources in their next best alternative use, it was thought that inefficient resource allocation would result.

The two analytical examples of coal burning trains or ranchers' cattle were the most familiar. In these examples, these two enterprises resulted in damage to a farmer's crops. The notion was that, since the owner of the train or cattle did not take into account the cost of the damage to the crops "caused" by his productive activity as measured by the reduction in the value of the farmer's crop—there would be a tendency to produce too much train transportation services or cattle, and not enough crops. This is the result of the fact that the owner of the train company and the cattle rancher underestimated the true economic cost of their productive activity. Economic theory suggests that the lower production costs result in lower product prices, which, in turn, yield greater consumer demand. The result is that more of the product will be produced.

The "conventional" policy recommendation, in instances where there appeared to be a divergence between private and social costs of production, was a tax of some sort, imposed, for example, on the operation of trains or on the production of cattle. This tax, if specific and apportionately reflective of the crop damage "caused" by the other productive activity would, it was thought, serve to force the train operator or cattle rancher to "internalize" and take into account all costs of production—both private and social.[1]

The most important element of the prevailing economic view prior to 1960 was that, in instances where private and social costs diverge, causing "production externalities," the marketplace would lead to an inefficient allocation of resources. Too much of some products would be produced, since their true economic costs would be underestimated. Conversely, too few of others would be produced, since their costs would be overestimated. Because the market system apparently failed to result in the optimal allocation of scarce resources, government intervention, in the form of taxation, was thought to be appropriate.[2]

## III.

## The Coase Theorem

It remained for the pioneering work of R.H. Coase to demonstrate, at least in a theoretical context, that the conventional economic wisdom was not accurate and, in fact, that: (1) government intervention into the operation of the market place, through the imposition of specific taxes, may actually result in moving further from an optimal resource allocative solution; (2) if parties to a damage-producing economic transaction are in a position to negotiate freely with each other, at no cost, such negotiation ("market forces") will serve to equate private and social costs of production in the absence of government intervention and without imposition of specific taxes; and (3) the legal rules imposing liability for damages will not, under certain conditions, affect resource allocation.[3]

What Coase demonstrated was that, where the cost of negotiations between parties is zero, negotiations between them will bring private and social costs into equality, regardless of which party was initially assigned the legal liability of bearing the economic cost of damages "caused" by his particular productive activity. Application of this theorem to the products liability area provides at least a starting point for the development of a general analytical framework.

## IV.

## The Zero Transaction Cost Case

In the "extreme" case, where transaction costs—the cost of negotiations between the parties to a damage-producing interaction—are zero, the legal imposition of liability for damages does not matter. Whether the legal system is one where the manufacturer has absolute liability, or is one where the manufacturer has no product-related liability whatsoever, negotiations—in this case, via the market place—will serve to eliminate any divergence between private and social costs.

Therefore, either of these two rules for the assignment of liability will result in the same allocation of resources under these circumstances. The level of output of the product under consideration will be the same, and the resources devoted to it will be the same, regardless of which party the legal system assigns the liability for, and cost of, damages "caused" by the product. The corollary is that liability assignment rules also do not affect the level of accidents or of safety in the economy.[4] It must be stressed, however, that these results are valid only in situations where transactions costs are zero, and where consumers are neither risk-averters nor risk-preferrers.

## V.

## The Positive Transactions Cost Case

The selection of liability assignment rules is likely to be based primarily on either judicial or legislative "tastes and preferences" with respect to wealth distribution. Even under circumstances other than those described, and more nearly approximating present-day legal systems, liability is, perhaps more often than not, assigned according to judges' and juries' "tastes and preferences" vis-a-vis wealth distribution. Criteria for placing the costs of accidents on the party or parties who are "best able to," or "should," absorb such costs are, either expressly or impliedly, based on a "deep pocket" rule of liability assignment.

Although the assignment of liability and related costs may not affect resource allocation, the level of production or safety and accidents under the circumstances described, it will affect the distribution of wealth. In the earlier example of the rancher and the farmer, if the liability assignment rule were one imposing liability on ranchers and required them to pay farmers for crop damage, the market value of the rancher's land, and hence his wealth, are most certainly reduced. The converse would be true if farmers bear the costs of crop damage. Farm land would be less valuable. The "direction" of payment clearly affects the distribution of wealth, as between the parties to the damages and accident producing interaction, *even if there is no resource allocative effect*. The same holds true in the case of the assignment of products liability damages, as between the manufacturer and the consumer.

The results of generalizing the analysis to incorporate the existence of transactions costs are: (1) The optimal, or economically efficient level of accidents and resulting damages will increase. Conversely, the corresponding level of safety and safe products will decrease. (2) Parties to accident-producing interactions, such as manufacturers and purchasers and users, will only find it worthwhile to interact—negotiate—in those instances where the anticipated economic benefits resulting from negotiations and exchange are greater than the costs of the transaction. When these costs are high, it will be less often that negotiations will take place. (3) Most importantly, specific rules of liability assignment will have resource allocative effects, will affect economic efficiency, and will be determinative of accident rates and the level of safety in the economy.

## VI.

## Accident and Safety Levels and Incentives for Accident Avoidance

Intuitively, it may appear that imposition of absolute products liability on manufacturers would result in the production of safe products and, thereby, in a greater overall level of safety, as accident rates in the economy declined. However, this is not necessarily—or even likely to be—the case. Whatever the liability assignment rule imposed by the legal system, the manufacturer will have an incentive, and the same incentive, to incorporate economically efficient—cost justified—safety features into its product and to engage in economically-efficient product safety research and development. The manufacturer's incentives to produce safer products will be unaffected by whether it is held absolutely liable—or not liable at all—to purchasers for product-related injuries and damages.

Imposing absolute liability on a manufacturer will lead the firm to "internalize" the cost of accidents caused by its products. An absolute liability assignment rule results in the manufacturer's comparing the accident costs which it is certain of paying, in the form of legal judgments for damages, with the production costs of making his product safer, and thereby avoiding the accident and its attendant costs. However, even under an absolute liability rule, the manufacturer, if it is profit-maximizing, will choose to pay the judgments for damages "caused" by its product, whenever the accident cost is less than the accident avoidance cost. In short, whether the manufacturer is absolutely liable, or not liable at all, its incentives to produce safe products, and engage in product safety research and development, are similar. A firm will spend on safety where the value of resources devoted to safety are less than the accident cost.[5]

Regardless of the degree of government intervention in "requiring" safety, or imposition of product safety standards, or of legislative intervention by way of "rules," accidents will occur. The question is, therefore, what is the optimal or economically efficient level of accidents, injury and related damages? The specific rule of liability assignment selected, whether by statute or common law, will, under "real world" conditions, affect resource allocations.

If manufacturers are held absolutely liable, they will be assessed damages even in the absence of product defect. In this case, the incentives for consumers to exercise care, in either the selection or use of products, will be greatly reduced. Indeed, it has been argued that if consumers could be guaranteed full compensation for the full sum of lost earnings, out-of-pocket expenses such as medical costs, and psychological damages suffered as the result of a product-related accident, they would, in principle, be "indifferent" as to whether they were injured by a product as the result of its use.[6]

The incentives for manufacturers, under an absolute liability rule, are to produce safer products and to engage in more product safety research and development. Under a rule of absolute liability, manufacturers would actively seek to incorporate safety features into their products and disseminate safety information to consumers, since they would be certain to be held liable for all accident costs occasioned by their products.

In the converse "extreme" case of liability assignment, where consumers must bear all costs of product-related accidents and manufacturers have no liability for damages, it is manufacturers who become "indifferent." The manufacturer's incentives for accident prevention and avoidance, by producing safer products, are minimal. On the other hand, consumers and users of industrial products, knowing that they bear the full cost of product-related accidents, will actively seek to avoid such accidents, both by their initial choice and subsequent use of products.

In a world of zero transaction costs, either rule of liability assignment will result in the same level of accident prevention and accident avoidance behavior. Either rule will also, under these circumstances, result in the same level of safety and safe products and, therefore, in the same level of accidents and related costs. An economically efficient solution can therefore be provided by the imposition of either of these two ("extreme") liability assignment rules. Under either rule, only those product-related accidents will be avoided for which the accident cost is greater than the minimum cost of avoiding the accident. In this context, the minimum cost accident avoidance method is the lesser of either the manufacturer's or the consumer's resource cost of avoiding product related accidents, or some combination thereof.

## VII.

## Relative Efficiency in Accident Avoidance

The introduction of transactions costs leads to the result that the particular liability assignment rule does make a difference and will result in different resource allocative effects, and hence in different levels of accidents and safety. This is especially true if the cost of avoiding accidents is different for the manufacturer than it is for the consumer. In the case of certain products and product-related accidents, it is less costly for the manufacturer to engage in accident prevention, by producing a safer product and engaging in product safety research and development. For other products and accident categories, it may well be significantly less costly for the consumer or product user to devote resources, including time, to accident avoidance.

The introduction of positive (or "prohibitive") transactions costs, and differential efficiency with respect to accident avoidance as between manufacturer and consumer or user, leads to the following result: Assignment of absolute liability to the manufacturer of the damages associated with product-related accidents leads to the manufacturer's avoidance of only those product-related accidents for which the cost of avoidance to the manufacturer is less than the expected accident cost. The latter, as we have seen, is the arithmetic product of the probability of an accident occurring and the cost of the accident.

A rule of consumer liability, where manufacturers have no liability, leads to the consumer's avoidance of only product related accidents for which the cost of avoidance to the consumer is less than the expected accident cost. Accordingly, since the cost of preventing or avoiding accidents will, in general, not be the same as between manufacturers of products and the consumers and users of these (same) products, accident rates and related accident costs, as well as the level of safety, will not be the same with respect to these two liability assignment rules. The question, then, is which of these (or other) rules is best, or "optimal," from the standpoint of economic efficiency.

In general, manufacturers are able to reduce the incidence of accidents by increasing the safety characteristics of their products and thereby reduce the probability of an accident's occurring. Not only does the increase of resources devoted to safety lower the probability of accident occurrence, but such spending may also reduce the extent of physical harm, and hence economic damages, given that an accident occurs. The result is a reduction of accidents, injury and economic damages. Conversely, purchasers and users, both of consumer and industrial products, are also clearly able to undertake certain precautions and modify their behavior in an effort to reduce both the incidence of product-related accidents and their severity.

## VIII.

## Objectives of Liability Assignment Rule Selection: The Economic Case

The fact that transaction costs are positive, and in some cases "prohibitive," results in the economically efficient accident rate's being higher than would be the case in a zero transaction cost world. The optimum level of safety is less, and the corresponding frequency and severity of consumer and industrial accidents is higher, because the effect of transaction costs is essentially to increase the costs of accident avoidance.

Notwithstanding the fact that it is clearly difficult to tailor a particular liability assignment rule to take precisely into account the relative accident avoidance costs of the parties to damage producing transactions, the legal rules of liability assignment should, in principle, be designed to encourage, if not achieve, an economically efficient level of safety. Given that accident costs increase with the frequency of accidents, whereas the latter are generally inversely related to accident avoidance costs, it follows that the economically-efficient assignment of liability with respect to product-related accidents is one which minimizes the sum of accident and accident avoidance costs.[7] The point at which this joint cost minimization is achieved is where society, as a whole, is devoting the economically-efficient level of resources to accident prevention and product safety.

Precisely because the difficulty of avoiding damaging, accident-producing interactions is not generally the same for both parties, a particular liability assignment rule can be economically more efficient than another. To the extent that courts assign liability for product-related damages to the party with the lesser accident avoidance costs, economic efficiency is being served. In this context, the evaluative criterion of placing the incentive for risk prevention on the party or parties "best able" to implement risk prevention techniques is the equivalent of placing liability for product-related accidents on the party or parties whose costs of accident avoidance are minimal.

In this connection, it is important to note that such descriptive terms as "fault," "responsibility" for an accident's occurrence, "blame" and the like are not really helpful in an economic analysis of the questions and issues involved in the products liability area. Moreover, an evaluative criterion of placing the costs of an accident on the party or parties who are "best able" to or who "should" absorb such costs has no proper place in assessing the economic efficiency of alternative liability assignment rules.

Rather, the economically appropriate rule for liability assignment is that liability should be assigned to the party or parties who could have most easily---at the least cost---avoided the costly accident and damage---producing interaction. What "fault," "responsibility" and "blame" mean operationally is to describe the lowest cost accident avoider. To the extent that the legal system assigns liability in this manner, it serves the goal of economic efficiency and encourages the minimization of the sum of accident and accident prevention costs.

It should also be noted that, to the extent the assignment of products liability results in economic efficiency, as defined above, such legal rules will serve to increase the availability of "affordable" products liability insurance. If the premium cost of products liability insurance coverage to manufacturers is viewed as an evaluative criterion with respect to liability assignment rules, "reasonable" and "affordable" premiums are more likely to result from economically efficient rules than from rules which assign liability according to which party or parties are "best able" or "should" absorb the costs of accidents.

## IX.

## An Economic Theory of Negligence

Although the legal system has moved increasingly away from a standard of negligence[8] in assigning liability in product-related accident cases, and toward a rule of strict liability, the "middle-ground" liability assignment rule of negligence deserves attention. Certainly for most of the past hundred years, negligence, or the failure of a party to exercise the care of an ordinarily careful and prudent man, has been the standard of liability assignment in accident cases. This was not always so.

Until approximately the 19th century, a party was held liable for the damages "caused" by his accidental behavior or actions, or product, whether or not the party was at fault. Beginning in the 19th century, and perhaps as a result of the economic pressures of the developing industrial revolution, the rule for liability assignment evolved rapidly toward a negligence standard. The damages and economic loss attendant to an accident were not shifted, by the legal system, from one party to another unless that party was negligent and the victim of the accident was not contributorily negligent.[9]

The pre-19th century "no-fault" liability assignment rule served largely to "internalize" accident costs.

Conversely, the evolution to a negligence standard of liability assignment resulted in the "externalization" of accident costs, shifting the economic burden from manufacturers to both workers and consumers who were accidentally injured as the result of their employment or consumption.

Perhaps one of the earliest, and certainly one of the most meaningful, articulations of the negligence standard was that of Judge Learned Hand, who defined what ordinary and prudent care meant.[10] The standard and liability assignment rule, as articulated by Judge Hand, was that a given party is negligent, and hence liable for damages, if the arithmetic product of the (economic) loss attendant to the accident and the probability of the accident's occurrence exceed the cost of avoiding the accident.

This test of negligence, and the liability assignment rule derived from it, are essentially an economic test. The economic loss attendant to the accident multiplied by the probability of the accident's occurrence is the expected accident cost and represents the value of the savings which avoidance of the accident could have effected. Economic efficiency dictates that, if a larger expected accident cost could have been avoided by the expenditure of fewer resources in accident avoidance, this should have been done. The legal rule for liability assignment that moves in this direction is the economically-"correct," efficient rule.

It is important to note that application of a negligence standard, and the finding by courts of "fault" defined and measured in this sense, implies that the primary function of the legal system is to develop rules of liability assignment that, when applied, provide the incentives among various parties to produce the economically-efficient level of safety and accidents. If, indeed, this is the appropriate and primary function of the liability system, it would not be consistent with this objective to assign liability in a manner where, for example, the manufacturer would have an incentive or is "forced" to incur a cost in producing safer products, or of taking safety precautions, where such costs exceed the benefit attendant in avoiding the accident. Both society as a whole and the manufacturer will be better off, in economic terms, by not preventing accidents and by not producing safer products or engaging in safety precautions, where the economic resources required to prevent the accident exceed the benefit of avoiding the accident.

Application of Judge Hand's test for negligence and assignment of liability clearly moves parties to accident-producing interactions in the economically efficient direction. By application of this test of negligence, manufacturers are found liable for damages if they fail to incur the costs of accident avoidance where the benefits of so doing, as measured by the expected accident cost, exceed the costs of prevention. In such instances, society would clearly have been better off had the manufacturer incurred the costs of accident avoidance.

It is worth noting that, even if Judge Hand's test of negligence were abandoned in favor of absolute liability, it is unlikely that the legal rule would override market forces and the economic incentives of profit-maximizing manufacturers. A liability assignment rule which ignores the relevant costs and benefits, for the ostensible purpose of inducing manufacturers to produce safer products, or of employers to take greater safety precautions, is likely to fail in achieving its objective.

If a manufacturer is profit-maximizing, and if the expected cost of an accident is less than the cost of accident prevention, the manufacturer will choose to pay the tort judgment for the damages it has imposed on other parties, rather than incur the greater cost of preventing the accident, and so avoiding the liability. It is precisely for this economic reason that, even under a legal system of absolute liability, accidents will occur. It is simply "economic" to allow some accidents to happen, often in instances where the expected costs of these accidents may appear to be high. It is the relative cost of accidents—the expected accident cost relative to the cost of accident avoidance—which, by and large, governs manufacturers' behavior with respect to producing safe products.

## X.

## Compensation as an Objective

### Liability Assignment Rule Selection

Because transactions costs are positive, and because different parties are more or less efficient accident avoiders, the selection and imposition of different rules for liability assignment do matter. Different rules do have both resource allocative and wealth distributive effects, and so are more or less efficient, from an economic point of view. Some liability assignment rules will tend toward an economically-efficient or optimum level of accidents and safety, whereas others will be just as likely to tend away from an optimum, economically-efficient solution.[11]

The other purpose of the liability system is to provide compensation to the injured. However, this objective is often confused with the economic objective outlined above. Moreover, more often than not, one or the other of these functions—economic efficiency and compensation—are confused with notions of "equity," "fairness" and "justice." It is in this context that evaluative criteria of the products liability system, such as who is "best able," or who "should" pay for accidents and product related damages, are most often raised. Such criteria implicitly suggest that the test of negligence, and rules for the assignment of liability are—or should be—moral tests, standards and rules designed to further someone's sense of morality, equity, fairness and justice.

Such a view of the liability/damages system is apt to lead to a great deal of confusion in evaluating the specific legal remedies of that system. An economically efficient liability assignment rule is an objective standard. Under such standards questions as to whether parties to accidents "did their best" to avoid the injury are not relevant. Moral indignation may differ, depending upon whether an accident and the resulting injury and economic damages were the result of some minor degree of carelessness or gross carelessness or, perhaps, were "unavoidable," in the sense that it is statistically certain that a number of persons will be injured, or even killed, by the product.

Conceiving of liability or negligence as moral constructs adds nothing to an economic analysis, and is likely to confuse it. The reason one reacts differently, with moral indignation, in one instance and not in the other, when an accident and injury are the result of gross carelessness, is actually rooted in a notion of economic efficiency. A judgment of liability ultimately always involves a weighing of the relevant costs and benefits. Imposition of liability, whether by common law or statute, always implies the existence of a less costly, from a resource utilization standpoint, means of avoiding the accident and injury. Moral indignation declines directly the more the cost of accident avoidance or prevention exceeds the cost of the accident under consideration. This is why, in those instances where the resources required to avoid or prevent the accident substantially exceed the benefits, the feeling of moral indignation is less. It is also why courts, in general, do not find the defendant liable for not having taken the precautions to avoid or prevent the accident and attendant injury in such instances.

That the appropriate purpose of the liability system is not only the compensation for (past) damages is clear. The prospect, or likelihood, of manufacturers or consumers and users of products having to pay or bear damages will, presumably, serve to induce economically-efficient modes of behavior on the part of the several parties involved in the potentially accident-producing interaction. However, both analytically and as a practical matter, it is possible and even useful to separate the two purposes of the liability system.

From a legal point of view, the question of product liability damage assignment is under what circumstances, and to what extent, economic costs, suffered initially by one party, should be shifted to another party. In the absence of either punitive or criminal penalties, the monetary amounts payable by those parties to whom the legal system assigns liability, less the administrative and adjudicative costs—which often are appreciable—should be equal to the amounts receivable as compensation. Until recently, the primary criterion for such shifting of economic costs was the "fault" or negligence of the parties involved in the accident-producing interaction, subject to such factors as contributory negligence, assumption of risk and the like. Liability and damages were measured by the compensation payable.

In principle, as well as in practice, cost assessment and damages compensation are separable.[12] The two questions are quite distinct. Decisions as to how and what charges are to be levied against manufacturers, for behavior resulting in accidental injury to consumers through "unsafe" products, is entirely separable from decisions relating to what level of compensation is to be paid to persons so injured, and under what circumstances such payments are to be made.

It may be convenient, but it is certainly not necessary, that the aggregate sum of cost assessments equal the total compensation payments to injured parties. There may be circumstances where the theoretically efficient level of assessments—charges to manufacturers for "causing" accidents—is significantly greater than the total cost of compensating accident victims, including the significant administrative and adjudicative costs attendant to the liability system. The separability of the legal system's cost assessment function from the compensation function is readily demonstrable. Whether or not the costs assessed parties adjudged liable with respect to product-related accidents are passed on to the injured accident victim will not have any impact on the manufacturer's behavior. Clearly, the damage-preventive or behavior-modification purpose and function of the liability system is completely separate and separable from the compensation purpose and function.

## XI.

## Public or Taxpayer Product Liability[13]

Some observers believe that the entire liability system should be abandoned in favor of a system whereby victims of accidents, regardless of causation or fault, would be compensated out of general tax revenues. In the extreme, all taxpayers would pay equal amounts into the necessary "compensation fund," and the risk and "loss spreading" of product-related accidents would be complete. No one party would bear any different accident costs than would any other party. However, such a system, although providing for a potentially most expeditious compensation process once accidents and product injuries had occurred, would do nothing to provide incentives for accident-avoiding behavior on the part of consumers or users of products, or for accident-prevention behavior on the part of manufacturers.

Under such a social product accident insurance system, neither purchasers nor manufacturers of products would have any economic incentives to select and use products carefully, or to design and produce safe products. With consumers knowing they are guaranteed full compensation, without regard to fault, hazardous and unsafe products would become less unattractive. Conversely, the cost to the manufacturer of producing less safe products would decline with social product accident insurance. Most certainly, both the production, purchase and use of unsafe products would increase. The incidence of accidents would increase, as would their cost. The fund required to compensate accident victims would also increase, as compared to any other liability system.

With the complete absence of any economic incentives for manufacturers to engage in accident prevention behavior, or for consumers to engage in accident avoiding behavior, accident costs would undoubtedly increase significantly. Administrative and other judicial and legal cost related to assigning fault would, of course, decline. However, there would still be significant administrative costs in establishing that an accident related to a product had, in fact, occurred and that an injury had resulted.

The complete elimination of any market incentives attendant to a taxpayer product liability system would eventually result in an "overlay" of complex government regulations and specifications relative to product safety. If the market place and free exchange are not allowed to allocate resources toward, and away from, producing an economically-efficient level of safety, direct government intervention would necessarily need to do so, if accident costs were to be kept under control. Inevitably, a system of taxpayer product liability would result in a highly complex array of government design and manufacturing specifications for products, rules and regulations for product use, and standards for product labeling, operating instructions and warnings.

The government would effectively be forced to reintroduce these and other elements, as they disappeared in moving to a taxpayer product liability system. Enforcement of all the necessary standards, rules and regulations would entail assessing some sort of monetary penalties for noncompliance on the part of manufacturers, and perhaps even for noncompliance on the part of consumers in their use of products. To some, possibly great, extent the entire products liability system would be moved back toward whence it came, albeit at huge increases in administrative, compliance and enforcement costs.

In the absence of such rules and regulations and their enforcement, the level of aggregate accident costs would surely rise, as the taxpayer product liability system would minimize, if not eliminate, any economic incentives for accident avoidance or accident preventive behavior, on the part of either consumers or manufacturers. How this higher level of accident costs attendant to taxpayer product liability would be spread among consumers would be largely determined by those factors influencing tax incidence in general. Consideration of such factors is beyond the scope of the present analysis.

## XII.

## No Manufacturer Liability

Over the past several decades the liability for accident costs related to defective and dangerous products has been shifted from consumers to manufacturers. To better understand the economic—resource allocative and wealth distributive—effects of this shift, it is helpful to examine the implications of a liability system of strict *caveat emptor*. In a world of zero transaction costs, such a liability assignment system would result in the economically-efficient level of safety and accidents. Those parties having a relative advantage in accident avoidance and prevention would undertake to do so. Product safety features, warnings, and use instructions would all be "produced" to their optimal level.

In the real world, transaction costs are certainly positive, often high and sometimes prohibitive. The market mechanism is, however, a relatively efficient mechanism and, as such, would serve to keep some kinds of transaction costs relatively low. Through the market, consumers exercise and make known their tastes and preferences for riskier and lower-priced products or for safer and higher-priced products. Although accidents and injuries to given individuals would not cease, such a liability system would tend to move toward an economically efficient solution of the safety-accident mix.

The primary criticism of the pure market system approach to product safety and product liability is that information costs are high. Information costs are, of course, simply one kind of transaction cost. This notwithstanding, it appears that the consumer is in the better position to determine what level and character or product safety is economically efficient. The product purchaser is perhaps best able to know to what specific uses he plans to put the product, and what degree of safety would be most "cost-effective" from his individual point of view. The purchaser needs only to acquire information from, and deal with, one or, at best, several manufacturers. Placing absolute liability on the manufacturer essentially reverses the incentives, and thereby induces the manufacturer to have to deal with thousands of individual consumers. This appears to be a less efficient arrangement.

On the other hand, strict caveat emptor may lead to other sorts of high information costs. Certainly, manufacturers know far more than consumers about design and manufacture of their products, their actual and potential safety, defects and dangerous characteristics. The costs to the consumer of obtaining this sort of product information are high, in absolute as well as relative terms. It may be the case that a system of no producer liability would result in an insufficient amount of this sort of information being provided the consumer.[14]

Thus, the most often looked to reason of the potential shortcoming of the pure private market system—no producer liability—to achieve economically-efficient levels of safety and accidents lies in the area of product information costs. Information is not free. Nor is it complete. It needs to be acquired through either experience or study. Both methods of information acquisition require time and the expenditure of resources. There is no question that in some instances the cost of acquiring product information through experience may be high.[15]

## XIII.

## Strict Liability

Over the past several decades, the liability for accident costs related to defective or dangerous products has shifted from consumers—caveat emptor—to manufacturers—caveat venditur. This shift in liability assignment has taken place "passing through" the negligence liability assignment rule. The imposition of a principle of strict liability under tort law essentially assigns liability for damages upon proof of injury, evidence that the injury was proximately "caused" by the product's defect. Such factors as misuse of the product, if not "foreseeable" by the manufacturer, or the consumer's "assumption of risk" all serve, in varying degrees and in different instances, to relieve the manufacturer of liability for product-related accident damages under the strict liability standard.

The shift to strict manufacturer liability has, quite simply, the effect of increasing the likelihood that the manufacturer will be held liable for accident costs associated with injuries related to defective and dangerous products. Conversely, it serves to decrease the likelihood that the consumer will bear the cost of accident and injury.[16] The consequences of the shift toward strict manufacturer liability are, in principle, readily identifiable as to their character and their likely direction. Moreover, although no empirical work has been undertaken in this area, some students of the subject do not feel that the quantitative effects of the movement to strict manufacturer liability are very significant.[17]

Most probably, the number of court cases and the resulting administrative and adjudicative costs have increased, as a result of the imposition of products liability. Under a system where consumers bear the entire costs of accidents, judicial determinations of accidents, the degree of injury, the existence of defects and the establishment of negligence are all absent. Transaction costs are likely to increase, thereby increasing the divergence between private and social costs. These higher "externalities" would probably lead to higher accident rates. Most certainly, manufacturers would increasingly avail themselves of product liability insurance. This is precisely what has taken place over the past several decades, and may well be the primary reason for the rapid increase in product liability insurance premiums, as the legal system has shifted liability assignment to the manufacturer under the strict liability standard.

To the extent that the shift to strict manufacturer liability has resulted in a net increase in transactions costs, by raising some types of information costs and increasing the cost of consumers' being careful in their product selection and use, the shift has led to a decrease in economic efficiency. However, if this has indeed been the effect, and the supply function of defective and dangerous products has been shifted yet farther downward, the resulting higher prices of "unsafe" products will have led to a net shift from injury-producing to noninjury-producing products. Safety may well have increased, and accidents decreased, as a result, albeit at the "expense" of economic efficiency.

In the absence of the above effect, however, it will not necessarily be the case that the shift to strict manufacturer's liability will result in a decrease in the quantity of defective and dangerous products produced, sold and purchased. Given that under a strict liability assignment rule consumers will be less likely to bear the economic burden of accident costs, relatively unsafe products will be less unattractive. The demand function for such products, relative to safer products, will shift upward. Conversely, with manufacturers, facing a greater likelihood of being held liable for accident costs related to defective and dangerous products, the cost of manufacturing unsafe products will increase, thereby shifting the supply function of unsafe products downward.[18]

There appears to be no question that the shift in liability assignment will lead, and has led, to higher product prices. However, the quantity of "safe" products may not change. The shift in liability assignment has certainly raised the pecuniary prices of products. The result is to force consumers and manufacturers to purchase consumer and industrial goods whose higher price not only covers the manufacturing cost of the good, but also covers the cost of what amounts to a conditional product insurance policy.

Under a strict liability assignment rule, manufacturers, whether producing and selling consumer or industrial goods, are essentially forced to engage in "tie-in" sales, where the price of the product necessarily must cover the good's manufacturing cost plus the product insurance premium to cover the damages inflicted by the product on the average consumer. In effect, every product, under a strict liability rule, is implicitly sold with an insurance policy. Since, under this liability assignment system, the consumer is essentially guaranteed compensation for injuries accidentally sustained as the result of product defects, the full or true economic cost of the product to the consumer may not change as the result of a shift to strict liability.[19]

There is, however, no question that strict liability has led to a decline in consumer "freedom of choice." Consumers willing to assume risk—"risk-preferrers"—and wanting to avail themselves of lower product prices are less able to do so. Moreover, with guaranteed compensation in the event of accidental injury, consumers will have less incentive to exercise reasonable care and prudence in either the selection or use of products. Since the insurance premium costs implicit in product prices under a strict liability system reflect the damages incurred and paid to the average consumer, this system necessarily involves a redistribution of wealth from consumers incurring low accident costs to consumers incurring high accident costs.

## XIV.

## Absolute Liability

Holding manufacturers liable for all injuries related to their products, without regard to any surrounding circumstances, is equivalent in some respects to the other liability assignment systems discussed earlier. Again, in a world of zero transaction costs, each party to the accident-producing interaction would undertake those accident-prevention and avoidance measures where the resource costs were less than the expected economic benefit. Under these circumstances, the level of resources devoted to accident prevention and avoidance would be optimal and economic efficiency would be served.

However, with positive transactions costs, the impact of an absolute liability assignment rule would most certainly have resource allocative, as well as wealth distributive, effects. In the absence of reliable data on transactions costs, it is not possible to develop accurate estimates as to these economic effects. This notwithstanding, the direction and general orders of magnitude involved can be assessed.

It is reasonably certain that the transaction costs in "hiring" consumers to be careful in their product selection and use would be high, if not prohibitively so. Moreover, consumers would find it still less costly to be careless.[20] The economic incentive for exercising care would disappear altogether. It is likely that accident rates would increase, as would injuries and the economic damages related thereto. The effect would be to increase product liability insurance premiums significantly. Now, even more so than under a strict liability standard, manufacturers would be forced, by law, to sell a "product package," consisting of the physical product and a full coverage product liability insurance policy. These forced "tie-in" sales would decrease the options available to consumers, in terms of the variety and prices of products.

There is no doubt that manufacturers would shift production away from relatively "unsafe" product lines to less defective, less dangerous product lines. However, although the general level of safety in the economy would be likely to increase, it is not nearly as clear what would happen to the sum of accident costs and accident avoidance costs. Accident rates and accident costs may decrease, but accident avoidance costs would increase significantly, since under a strict liability system with no product defect, accident prevention and avoidance would be engaged in by parties not possessing a relative efficiency in such activities.

These increased costs of accident prevention and avoidance would be borne largely, if not entirely, by the manufacturer's customers, to the extent that it is able to pass these higher costs on in the form of higher nominal product prices, and to the extent that the consumer faced a significantly reduced variety of product options. Since there would be no circumstances under which the consumer would ever bear any costs of product-related accidents and injury, he would never "pay" for uncompensated accident losses. "Loss spreading" would be entirely to the customers of the manufacturer, and to resource-owners—stockholders of the firm—to the extent that the manufacturer was not able to pass on the higher accident prevention and avoidance costs to consumers, in the form of higher product prices.

The net impact on administrative and adjudicative costs is not clear, and any savings are likely to be illusory. Since, under this liability assignment rule, the scope of liability is as wide as under a taxpayer product liability system, the total number of cases and claims would increase enormously. On the other hand, it is likely that court and litigation costs per case or claim would probably decline, as more cases are settled out of court and without litigation, as compared to a negligence liability system.

This is not to say that court and litigation costs would be negligible. On the contrary, unlike the case of no manufacturer liability strict (*caveat emptor*), under absolute liability, the fact and degree of product-related injury would still need to be established. Indeed, the strict establishment of the fact and extent of the accident and product-related injury would probably turn out to be the primary constraint on claims and their size.

## XV.

## Strict Liability and Negligence: Some Comparisons

Where transaction costs are sufficiently high, or made so by the imposition of a liability assignment rule which itself raises transactions costs, the liability imposed by the legal system will not be shifted from one party to the other, either by direct negotiation or by the market mechanism. In cases such as these, the objective of liability assignment rules ought to be the maximization of the joint-value of the output of the competing—"interfering"—productive activities. This economically efficient solution may involve modification of the behavior of either or both parties. It depends on which is the more efficient accident or damage avoider.

It has been shown that, in most cases, the imposition of strict liability, with no defense for contributory negligence, results in an economically efficient solution with respect to the safety-accident mix. In those instances where this appears not to be the case, a strict liability assignment rule coupled with a contributory negligence defense results in as economically efficient a solution as a liability assignment rule based on negligence as defined by Judge Hand.[21] Whether liability is assigned in products injury and accident cases according to a rule of strict manufacturer liability, negligence or no tort liability at all, an economically efficient solution results. The level of safety and accidents and the costs related thereto, in total, do not differ from one liability assignment rule to another.[22]

## XVI.

## Product Safety Research and Development

It is often suggested that strict liability is preferable to negligence or other rules of liability assignment because it will foster an increase in the level of safety over the longer term. This is not necessarily the case. What the rule of strict liability does is to shift the incentive for product safety research and development, from consumers to manufacturers. The level of safety, and of product safety research and development, is likely to remain largely unaffected.

Under a negligence standard of liability assignment, a manufacturer will, in principle, take into account the benefits—reduction in accident costs and damage awards—attendant to product safety research and development. Such gains *ought* to be taken into account when the manufacturer decides whether additional resources devoted to product safety and accident prevention are cost justified. In practice it is likely that the cost justification of product safety and accident prevention is made with respect to the existing state of the art. A negligence standard and test for liability assignment may not provide adequate incentives for the manufacturer to devote resources to advancing technology with respect to product safety and accident prevention. What is clear is that there is no way of knowing which liability assignment rule would result in more safety and less accidental injury related to products over the longer term.

## XVII.

## Adminstrative and Adjudicative Costs

Another reason often cited for preferring strict liability to a negligence liability standard is that strict liability reduces administrative and adjudicative costs. This also is not necessarily so. Litigation costs, including lawyers' fees and court costs, may not be reduced, on balance. Although the issues and uncertainties surrounding litigation may well be fewer and simpler under strict liability than under negligence, the scope of liability and the absolute number of claims are increased.

Secondly, since strict liability significantly increases the plaintiff's likelihood of prevailing, the amount of money the plaintiff is willing to spend on litigation is also likely to increase. Accordingly, the net change of these costs is not at all clear. The empirical evidence suggests that court and litigation costs may well increase, as the liability system shifts from negligence to strict liability.

## XVIII.

## Cost and Loss Spreading

Yet another reason put forth for preferring strict to negligence liability is that the former rule facilitates the "spreading" of accident costs among a class of cost-bearers. This argument of "loss spreading" is spurious. There is absolutely no economic or theoretical basis for arguing that the "spreading" of a single large economic loss from an individual who happens to be the victim of an accident to a class of individuals, each of whom bears only a small fraction of the large loss, increases either allocative efficiency or social well-being.

Even if the above were the case, or if society made some sort of collective value judgment that such "loss spreading" was desirable, there is no reason why holding the manufacturer strictly liable is preferable to negligence liability. In the former instance, the manufacturer will pass on, and so "spread," the cost of accidents among customers, in the form of higher prices to cover product liability insurance premiums and damages for which the firm has self-insured. To the extent these costs cannot be passed on to consumers, they would be "spread" to the firm's stockholders in the form of lower profits.

Where manufacturers are held liable only for their negligent acts involving products, consumers could, for the most part, insure themselves against uncompensated accidents and injuries attendant to the use of defective or dangerous products.[23] In this case, the accident costs and loss "spreading" would be among the customers of private insurance carriers. To the extent the carriers were not able to pass increases in underwriting costs on to their customers, in the form of higher insurance premiums, the cost of accidents would be "spread" to the stockholders of insurance companies. Only if there were some reason to believe, or better yet, if there were some empirical evidence to suggest, that manufacturers were more efficient (lower cost) insurers, as compared to consumers, would a rule of strict liability assignment be preferable, for cost and loss "spreading" purposes, to negligence liability.

## XIX.

## "Internalizing" Accident Costs

Yet another reason why some students and commentators of the products liability field believe a rule of strict liability assignment is preferable to one of negligence liability is that it "internalizes" accident costs, thereby forcing manufacturers to take these costs into account in production, safety and pricing decisions. However, this result, attributed to the strict liability standard and shift thereto, is erroneous.

The "internalization" of accident costs under strict liability, or the complete "externalization" of these costs under a system of no manufacturer liability, where consumers bear all of the economic burden of accidents, is essentially irrelevant to an analysis of economic efficiency and resource allocation. The issue of *whose costs* the accident costs are, whether the manufacturer's or the consumer's, is not helpful in trying to design a liability system which is economically efficient, in terms of resource utilization. For accident costs, their true, economic measure is the foregone productivity of the victim *plus* the resources represented by medical, hospital and rehabilitative efforts. It is the "opportunity costs" attendant to product-related accidents which count, at least economically.

Accidents are usually avoidable or preventable by modification of the behavior of either consumers or manufacturers or both parties. From a resource allocative point of view, the critical question is not so much who "really" bears the cost of accidents, but which party is best able—at least cost—*to avoid the accident*. It is for this reason that strict liability is likely to lead to economically inefficient results, since this rule eliminates any economic incentives for accident victims to engage in cost-justified accident prevention and avoidance.

It is for this reason that some legal writers have suggested that if strict liability were coupled with a _comparative_ negligence defense, this would serve to eliminate objections to the strict liability rule on grounds of economic inefficiency. By coupling the notion of comparative negligence with a strict liability assignment standard, this standard is made _as_ resource allocatively efficient as a rule of negligence liability.

## NOTES

1. It should be noted that this is one of the arguments proffered in support of shifting to strict liability in the products liability area—this shift serves to "internalize" costs. *See infra.*

2. It should be noted that the more contemporary examples of production externalities lie in the areas of pollution and products liability.

3. Coase, "The Problem of Social Cost," 3 *J. L. & Econ*. 1 (1960).

4. This analysis views "safety" as simply another "commodity," produced by manufacturers and "consumed" by the purchasers of products which incorporate safety.

5. The discussion is based on the notion that the price of a product to the consumer is the sum of the nominal or pecuniary price of the product and the expected accident cost. The latter is the arithmetic product of the probability of an accident occurring and being "caused" by the good and the accident cost. To the extent that the manufacturer's spending on product safety and accident avoidance affects the full, "true" cost of the product to the consumer, it does so by reducing the probability of an accident's occurring, by making the product safer. This increase in the safety of the product is generally accompanied by an increase in the nominal price of the product.

6. The fact that consumers do not appear to be "indifferent" to being the victims of product-related accidents suggests they do not feel they are likely to receive, let alone be guaranteed, full compensation for all damages.

7. This optimization algorithm, although long known to economists in such areas as inventory control, was initially applied in the accident and safety area in G. Calabresi, *The Cost of Accidents* (1970).

8. Until recently, courts have generally assigned liability to the manufacturer in those cases where the manufacturer was found negligent *and the consumer was not contributorily negligent*. If the consumer was found to have been contributorily negligent, he was generally denied *any* recovery for damages "caused" by the accident. More recently, courts in some jurisdictions have begun to move toward the assignment of liability based on the concept of "comparative negligence." Here, the consumer is not subject to an "all or nothing" situation, but rather has any damage award he would have been entitled to reduced by an amount approximately proportionate to the degree of his contributory negligence.

9. It is interesting to note that, in the 20th century, the assignment of liability, as effected by the present legal system, has swung the pendulum nearly all the way back to pre-19th century conditions.

10. *United States v. Carroll Towing Co*., 159 F.2d 169 (2d Cir. 1947). *See also* Brown, "Toward an Economic Theory of Liability," 2 *J. Legal Studies* 323 (1973).

11. Judge Hand's formulation of the test and standard for negligence largely ignores the question and issue of accident avoidance by the injured party. To the extent that this is an important consideration in arriving at a determination of the economically most efficient set of liability assignment rules, it is clearly necessary to take into account which party to an accident-producing interaction is better able, at less cost, to avoid "cause" of the injury.

12. The extreme example of this is in the instance of government accident insurance where there is no cost assessment of any kind on accident "causers." Compensation to victims of accidents is made out of general tax revenues paid by (most) everyone.

13. This section of the analysis draws on the incisive exposition of McKean, "Products Liability: Implications of Some Changing Property Rights," 84 Q. J. Econ. 611 (1970).

14. Depending on the product, its cost, design and manufacture, the cost and amount of information provided by the manufacturer, the consumer will differ. Since information costs will vary by product, it may indeed be economically efficient to apply different liability assignment rules to different product categories.

15. This is certainly the case where product related accidents are fatal.

16. The present discussion focuses on any given individual consumer. As to whether consumers, as a class, bear the costs of product-related accidents, or whether the owners of productive resources——stockholders——do, requires focusing on the wealth distributive effects of each of the liability assignment rules.

17. McKean, supra note 13.

18. Costs will increase both because of [the necessity to pay] higher product liability insurance premiums and payment of damages to consumers accidentally injured by the manufacturer's product.

19. The true economic cost of a product to the consumer is the nominal (pecuniary) price of the produce plus the expected accident cost. Strict liability makes this latter cost to the consumer much less, although he now pays a higher nominal or pecuniary price for the product.

20. As compared to strict manufacturer liability with product defect.

21. See Posner, "Strict Liability: A Comment" 2 J. Legal Studies 1 (1973).

22. This is not strictly true in those (few) cases of injury producing interactions known as "unavoidable" accidents. In such cases, the results of the different liability assignment rules, in fact, will differ with respect to their economic effects. What "unavoidable" in this context means is not that the accidents are literally, in a physical sense, unavoidable. As elsewhere, "unavoidable" really means economically unavoidable. The accident avoidance or prevention cost, both to the manufacturer and to the consumer and victim of the accident, exceeds the expected accident cost. Hence, economic efficiency dictates that the accident be allowed to occur. Neither the manufacturer nor the consumer will do anything either to prevent or avoid the accident, yet under a rule of negligence the manufacturer is not liable, whereas under strict liability it may be. See R. Posner, Economic Analysis of Law (1972).

23. Indeed, with the advent of a national health insurance scheme which included appropriate long-term disability provisions, the government may, in effect, "self" insure on behalf of the consumer.

## C. Proposed Modifications in Products Liability Law

### 1. Modifications That Retain the Tort-Litigation System

#### a. Introduction

##### (1) Action at the Federal Level

## ACTION AT THE FEDERAL LEVEL

It is undeniable that the development of products liability principles in the state courts has resulted in the existence of severe inconsistencies and contradictions. As the courts of each state have carved their own products liability laws from the broad foundation of § 402A of the Restatement (Second) of Torts, they have adopted different standards to be applied in the treatment of many products issues.

While it is true that a "patchwork" of conflicting and confusing rules is a basic characteristic of the process of development of legal principles by state common law processes, recognition of this tenet of jurisprudence makes the situation no more palatable to products manufacturers. Manufacturers of products sold and used in several states object to the situation which presently exists whereby, irrespective of the fact that their markets are not divided by state boundaries, the performance of their product is assessed differently from jurisdiction to jurisdiction. Due to increasingly effective "long-arm" jurisdictional standards, these manufacturers are being held answerable for product-caused injuries according to legal rules which vary from state to state. Moreover, insurers tend to establish premium rates on the basis of the broadest possible theory of liability which has been adopted in any jurisdiction. Thus, the lack of uniformity in state tort principles can be cited as a factor contributing to the price of obtaining products liability insurance which, in turn, causes an increase in the cost of a product as these costs are passed on to the purchaser.*

It is also contended that, apart from its impact upon those immediately concerned with product costs and liability for injury, the present confusion, uncertainty and incompatibility among jurisdictions and courts within the same jurisdiction can be detrimental to the public good.

If it is accepted that some measure of uniformity—if not in the nature of a comprehensive uniform law of products liability then perhaps in the form of enactment of specific rules such as a uniform products liability statute of limitations—is desirable, then the question becomes one of deciding how best to achieve this uniformity. This decision presents a choice between federal legislation which would have immediate effect in every jurisdiction and the promulgation of a uniform law to be adopted by the legislature of each state individually.

On the surface, the latter option has little to recommend it. Promulgation of a uniform state law under the auspices of the National Conference of Commissioners on Uniform State Laws would be time-consuming, and adoption of

*See note, page i.

the product of such effort by all jurisdictions would be, based on past history of uniform state legislation,[1] highly improbable. Each state could be expected to adopt a slightly modified version of the uniform act which would most closely approximate the existing rule that had been developed and enforced in that state. In effect, the ideal of a true uniform law to guide manufacturers, insurers and consumers could probably not be achieved by the device of state legislation.

However, while at first glance Congressional action might appear to be a clearly preferable method of changing chaos into certainty, this alternative is far from free of theoretical and practical impediments.

If uniformity could actually be best achieved by enactment of a federal statute, then it would certainly be constitutionally permissible for Congress to enact such legislation. The enactment would be justified, as many federal laws have been, as an exercise of the power of Congress over interstate commerce.[2] It has been held, for example, that a lack of uniformity of standards between states may constitute a burden on interstate commerce.[3] In actuality, if Congress decides that uniform legislation is advisable, little actual impact upon interstate commerce need be shown in order for the enactment to be sustained by the courts. The decision of whether to act is committed in the first instance to Congress, the will of which is accorded great deference by the courts in matters of this kind.[4]

Nor would a uniform federal enactment be subject to constitutional challenge on due process grounds. While even legislation enacted under the commerce clause must be consonant with due process, a substantial showing of arbitrariness and unreasonableness would be required to void the statute.[5] It is well settled that a rule which would deprive product-injured plaintiffs or defendant manufacturers of favorable common law remedies or defenses now enjoyed under the law of some jurisdictions would not, in itself, constitute a deprivation of due process.[6]

The practical viability of securing a uniform law by federal action, however, is a matter quite apart from its constitutionality. While Congress has the power to "cure" inconsistencies in the common law by enactment of uniform legislation, its deep-rooted respect for principles of federalism makes its will to do so extremely suspect. Federalism cannot be underestimated as a factor in assessing a uniform law, for it is basic to the existing legal structure. Congress has, in practice, exhibited great deference to state control of rights and remedies under the common law. Rarely has Congress seen fit to intrude into the traditional state law sphere to usurp state authority in the area of tort remedies, contenting itself with establishing product safety standards, for example, but stopping short of creating substantive tort causes of action or defenses. The Federal Employer's Liability Act[7] is an exception to this rule of practice, but that substitution of federal for state common law remedies was not undertaken in the interest of promoting uniformity.[8]

Even if Congress should decide to exercise its power and adopt uniform laws, any enactment other than the most specific and simple provisions imaginable would be subject to judicial construction. It could be expected that, at least prior to the time that cases were accepted and decided by the United States Supreme Court, there would be diverse interpretation of any purportedly "uniform" law by federal district courts and state courts. This diversity of interpretation might result in a situation whereby prudent insurers and manufacturers would operate in light of the strictest interpretation and most rigorous assessment of liability, as is precisely the situation now.

Thus, while uniformity of law is a concededly desirable objective, its achievement, by either adoption of uniform laws by state legislatures or by federal legislation by Congress, is a matter beset with practical problems that are perhaps too insurmountable for a uniform law ever to achieve fruition.

# NOTES

1. *See* Heimanson, "Federalism and the Uniform Law Movement," 6 *N.Y.L. Forum* 161 (1960).
2. *U.S. Const.* art. I, § 8, cl. 3.
3. *Bibb v. Navajo Freight Lines*, 359 U.S. 520 (1959).
4. 2 Antieau, *Modern Constitutional Law* § 12:9 (1969).
5. *Id.* § 12:23.
6. *New York Central R.R. v. White*, 243 U.S. 188 (1917).
7. 45 *U.S.C.A.* §§ 51 *et seq*.
8. *See* *New York Central R.R. v. Winfield*, 244 U.S. 147, 161-62 (1917) (Brandeis, J., dissenting).

## (2) Selective Implementation of Tort Reform

## SELECTIVE IMPLEMENTATION OF TORT REFORM

One criterion by which any statutory modification of a common law rule is measured is its ability to withstand a constitutional challenge. It seems certain that legislative modifications to the law of products liability as it has been judicially developed would be so challenged. Those parties who suffer the loss of rights, remedies or defenses will certainly assert that the modification represents an unconstitutional denial of equal protection, under the federal constitution[1] and under the particular state constitutions involved. To the extent that the changes in question focus on the products liability sphere in particular rather than on personal injury tort law in general, the validity of such challenges cannot go unnoticed.

The United States Supreme Court has held that a legislature may, without violating equal protection principles, take a step-by-step approach to solving a given social problem. However, the Court has concurrently pointed out that there must be a reasonable basis for selecting a particular classification for special treatment.[2] The only exception to this requirement is where the classification concerns a statutorily-created cause of action, such as is the case with workers' compensation systems. In that case, the legislature may impose arbitrary limits, on the availability of the statutory remedy which would otherwise offend equal protection principles.[3] Where, however, the statutory measure affects common law rights, this exception would not apply. In such case, a rational basis must be found for singling out this area of tort law; otherwise, the proposed modification might be held to violate the equal protection clause.

For example, in a recent opinion, an Ohio court struck down limitation-on-recovery provisions of a new state medical malpractice law.[4] The basis of that decision was that the enactment abrogated common law remedies only as to claimants in one particular type of personal injury tort action. On the other hand, while automobile no fault statutes which limit recovery of pain and suffering damages are open to challenge on the identical reasoning that they arbitrarily discriminate between different groups of injury victims, such statutes have been generally upheld against this challenge.[5]

In accordance with equal protection considerations, modifications in product liability law—whether they involve placing limitations on attorneys' fees, making changes in statutes of limitation, restricting damage recoveries or modifying the collateral source rule—will be open to constitutional challenge when accomplished strictly in reference to products liability litigation. Conversely, there are indications that the implementation of such changes "across the board"—to all personal injury tort law—will serve to sustain the enactment against equal protection challenge.[6] Of course, persuading a legislative body to make such sweeping changes in tort law generally in order to remedy difficulties present in only a limited area of that law would involve problems quite apart from constitutional considerations.

# NOTES

1. U.S. Const. amend. XIV, § 1.

2. Williamson v. Lee Optical Co., 348 U.S. 483 (1955).

3. See, e.g., Yeiser v. Dysart, 267 U.S. 540 (1925).

4. Graley v. Satayatham, 74 Ohio Op. 2d 316, 343 N.E.2d 832 (1976).

5. See, e.g., Singer v. Sheppard, 346 A.2d 897 (Pa. 1975); Fann v. McGuffey, 534 S.W.2d 770 (Ky. 1975); and Rybech v. Rybech, 141 N.J. Super. 481, 358 A.2d 828 (1976).

6. For example, rules limiting contingent fees in all personal injury cases were upheld in American Trial Lawyers Association v. New Jersey Supreme Court, 126 N.J. Super. 577, 316 A.2d 19, aff'd, 66 N.J. 258, 330 A.2d 350 (1974).

### (3) Deprivation of Common Law Remedies

## DEPRIVATION OF COMMON LAW REMEDIES

Any proposed measure in products liability law which would involve an alteration of rights, remedies or defenses presently existing in the common law tort system can be expected to meet a constitutional challenge based on due process principles.[1] No person possesses any property right in common law causes of action or defenses,[2] however, and a socially desirable legislative enactment is not unconstitutional on due process grounds merely because the scheme involves the abrogation of common law rights or remedies.[3] Thus, the basic principle by which remedial legislation is judged in the context of due process attack is whether its impact bears some reasonable relationship to the permissible goals which it was intended to further.[4]

The problem cannot, however, be so simply resolved. Consideration must be given to the factor of "adequate substitution." The United States Supreme Court has never directly held that due process requires that abrogated common law rights must be replaced by some equivalent benefit under the legislative scheme under consideration. However, this quid pro quo element was strongly emphasized by the court in its decision upholding the constitutionality of New York's Workmen's Compensation Act.[5] This factor has also been noted in consideration of the constitutionality of state automobile no-fault acts which abolish recovery of pain and suffering damages but compensate the injured claimant by providing a speedy remedy without the necessity of costly litigation.[6] In fact, state courts have exhibited a stronger tendency to focus on the existence of a substitute for abolished common law remedies in assessing the constitutionality of a legislation than has the United States Supreme Court.[7]

Thus, any proposed remedy—whether it be a total replacement of the tort system with a comprehensive products liability no-fault scheme or a more limited change such as the institution of a system of periodic payments in lieu of lump sum awards—will be better equipped to withstand due process scrutiny if some substitute benefit is provided to compensate for common law rights which are abrogated.

## NOTES

1. "[N]or shall any person . . . be deprived of life, liberty or property, without due process of law . . ." U.S. Const. amend. V; "[N]or shall any State deprive any person of life, liberty or property, without due process of law . . ." U.S. Const. amend. XIV, § 1.

2. See Abbott v. National Bank of Commerce, 175 U.S. 409 (1899).

3. New York Central R.R. v. White, 243 U.S. 188 (1917).

4. Ferguson v. Skrupa, 372 U.S. 726 (1963); Nebbia v. New York, 291 U.S. 502 (1934).

5. New York Central R.R. v. White, supra note 3.

6. See, e.g., Shavers v. Attorney-General, 65 Mich. App. 355, 237 N.W.2d 325 (1975); Pinnick v. Cleary, 360 Mass. 1, 271 N.E.2d 592 (1971).

7. See, e.g., Carlson v. Smogard, 298 Minn. 362, 215 N.W.2d 615 (1974); Sunspan Engineering & Construction Co. v. Spring Lock Scaffolding Co., 310 So. 2d 4 (Fla. 1975).

## b. Modifications Regarding Defenses and Presentation of Claims

### (1) The Basic Standard of Responsibility in Products Liability Cases

# THE BASIC STANDARD OF RESPONSIBILITY IN PRODUCT LIABILITY CASES: A CRISIS OF CONFUSION

## I.

## Introduction

The law of products liability is caught in a crisis of confusion concerning the basic standard of responsibility of manufacturers and sellers of products.[1] The current morass has been variously characterized as one of "confusion,"[2] a "murky state of affairs,"[3] a "crisis of confidence,"[4] a state of "unhealthy ferment,"[5] and involving a "tremendous amount of uncertainty."[6] Although products liability law, as applied in many cases, is essentially negligence law based on fault concepts, imprecise and varied terminology is being used to describe the basis for such decisions. For example, under so-called strict liability, § 402A of the *Restatement (Second) of Torts* imposes liability on sellers of products which are in "a defective condition unreasonably dangerous to the user or consumer." On the other hand, California has rejected the phrase "unreasonably dangerous" in favor of the term "defect" without further definition.[7] Other courts use the terms "not reasonably safe"[8] or "dangerously defective."[9]

The confusion is magnified by the use of three supposedly separate rules of law—warranty, traditional negligence, and strict liability——in weighing the liability of the manufacturer.[10] Judges, attorneys, and especially juries generally find the combination of these rapidly changing rules incomprehensible and largely impossible to apply effectively.

The situation is exacerbated by the fact that the concepts of risk-spreading, enterprise liability and absolute liability are sometimes given lip service, although they are consistently rejected by most courts.[11] Manufacturers have not generally been held responsible for unknowable risks,[12] unavoidably unsafe products where adequate warnings are given,[13] unforeseeable misuse of the product,[14] and design problems beyond the technological "state of the art."[15] Legal commentators sometimes decry the rejection of manufacturer responsibility in these instances as contrary to the theory of "strict liability,"[16] but responsibility based upon "fault" remains the rule.

This confusion problem is aggravated further on a national scale by the permutations resulting from the various statements of the law within each of the 50 states.

## II.

## Assessment

If the "crisis of uncertainty" in the products liability insurance field is to be dealt with effectively, then strong action must be taken to adopt a single cause of action and to clarify the standard of responsibility in products cases.* Since products liability law—even strict products liability—is essentially negligence law, particularly in design and duty-to-warn cases, it should be recognized as such, perhaps through reformulation of § 402A of the Restatement. Alternatively, state legislative action may be required. Such a "return to negligence" would not involve a rejection of the concept of strict liability as applied in the cases, but simply a recognition that negligence and fault concepts have not been abandoned in the field of products liability. Rather, these principles have been given a new name and have sometimes been applied in a slightly different manner than in traditional negligence cases.

This new hybrid cause of action should be based upon Dean Wade's concept that "selling a product which is not duly safe is negligence. . . .[17]

## III.

## Models

### A. Negligence vs. Strict Liability

The key to an understanding of products liability law is a realization that the term "strict liability" is not the equivalent of absolute liability. In design-defect cases and duty-to-warn cases, strict liability is virtually identical with negligence. As Dean Wade, in his illuminating 1973 article entitled "On the Nature of Strict Tort Liability for Products," so clearly stated:

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*See note, page i.

> In the case of the improper design which makes the product dangerous, whatever is enough to show that it is so dangerous that strict liability should apply . . . , will also be enough to show negligence on the part of the manufacturer. Even if the manufacturer is not aware of the danger created by the bad design, he is negligent in not learning of it. This is also true if the product is unsafe because it did not carry a suitable warning or adequate instruction. The proof necessary to establish strict liability will certainly be sufficient to establish negligence liability as well.
>
> * * *
>
> There are thus innate similarities between the actions in negligence and in strict liability, and changing the terminology does not alter this.[18]

If design cases and duty to warn cases are essentially decided on the basis of negligence, then what is the significance of strict liability? The answer is to be found in the manufacturing defect cases. There, if traditional negligence is applied, the plaintiff faces substantial proof problems since he must establish that the manufacturer failed to exercise due care in the manufacturing process.[19] Basically, he must impugn the conduct of the manufacturer, and evidence of such a lack of due care is extremely difficult for the plaintiff to obtain.

On the other hand, under strict liability the proof process differs in that the plaintiff must impugn the product itself rather than the conduct of the manufacturer. In other words, the primary difference between negligence and strict liability is that the proof considerations in manufacturing defect cases are shifted from the conduct of the manufacturer to the performance of the product. In a way, the plaintiff is thus permitted to prove the negligence of the manufacturer through the "negligence" of the product. Liability, though, still rests on "fault," since the product must be "defective" or "unreasonably dangerous" in order for the plaintiff to recover. Of course, the meaning of "defect" in a manufacturing defect case, as opposed to a design defect case, is simple: the product did not perform according to specifications. Perhaps a screw was missing or the worker installed a part improperly.

In addition to the shifting-of-the-proof process in manufacturing defect cases, there are two other points where negligence and strict liability may differ. First, in design defect cases, the element of scienter—knowledge of the dangerous propensities of the product—is imputed to the manufacturer when strict liability is applied.[20] Under negligence principles, evidence of this knowledge is part of the plaintiff's burden of proof. However, even when the negligence standard of reasonable care is imposed in design cases, the manufacturer is still obligated to assume the position of an expert in the field and keep abreast of the most recent scientific developments in the industry.[21] When this standard is imposed, the negligence test of whether the manufacturer knew or should have known of the dangers is little less demanding than the strict liability technique of imputation of knowledge of the dangers. Thus, the only significant difference relates to dangers which are scientifically unknowable at the time of marketing of the products. Dean Keeton has noted that unless manufacturer liability is imposed for unknowable risks, then strict liability in design cases becomes a myth and negligence stands as the rule.[22] Since the courts have uniformly refused to hold manufacturers liable for unknowable risks in design cases,[23] there is essentially no difference between negligence and strict liability in such cases.

The second point of difference involves the responsibility of one other than a manufacturer, the wholesaler or retailer, for example. Unless the negligence of the manufacturer for design defects or inadequate warnings is imputed to the intermediate seller, or unless the intermediate is negligent for selling a product which lacks the attributes of due safety[24] (negligent per se), then the intermediate seller will not incur liability under a negligence standard. As a practical matter, the liability of the intermediate only frustrates the plaintiff's recovery where the intermediate is not directly negligent and the manufacturer is insolvent or is not subject to suit for procedural reasons. In such a situation, the plaintiff will look to the immediate seller for recovery. Since in the past, the courts have imposed liability on the intermediate under a breach of warranty or strict liability theory, any new approach must necessarily make allowances for situations where the manufacturer is not amenable to suit.

## B. One Cause of Action

Much of the confusion regarding the basic standard of responsibility in products liability cases centers on the use of three different theories of recovery—breach of warranty, negligence and strict liability. Since most products cases are tried on the basis of more than one theory,[25] the standard of responsibility is, for most juries, essentially incomprehensible. The solution to this problem is apparent—there should be a single cause of action in products cases based upon the appropriate duty.[26] But what should that duty be?

Most efforts to arrive at a definition of the duty in products cases have been undertaken within the framework of the concept of strict liability, and most courts have begun with the formulation of strict liability which is set forth in § 402A of the Restatement (Second) of Torts. This section imposes liability on the seller of products which are in "a defective condition unreasonably dangerous to the user or the consumer." Unfortunately, many courts have pointed out that this statement of the standard is difficult to apply, especially in design cases. Therefore, alternative statements of the standard have been developed.[27] Other courts have considered the § 402A standard to be the equivalent of negligence per se.[28] As a result, there is no clear and agreed upon formulation of the standard of responsibility in products liability cases.

## IV.

## The Proposed Remedy

One solution to this crisis of confusion may be reformulation of § 402A of the Restatement or state legislative enactment of a single cause of action[29] for products liability. Such a hybrid cause of action should reflect the reality of decisions in the field. It should be explicitly recognized that this cause of action is rooted primarily within negligence and fault concepts and that trends reflecting absolute liability, such as liability for unknowable risks and design problems beyond the technological "state of the art," are specifically rejected. The cause of action would be essentially one of negligence except that (1) the proof process in manufacturing defect cases would be shifted to focus on the product, and (2) intermediate suppliers, such as wholesalers and retailers, would be held liable even if they themselves were not directly negligent.

The standard of responsibility in products liability cases which comes closest to expressing these objectives is that developed by Dean Wade. He has stated that "one who supplies a product which is not duly safe is negligent per se"[30] and that "[s]elling a product which is not duly safe is negligence within itself."[31] Elaborating on this concept, Dean Wade suggests the following jury instruction:

> A [product] is not duly safe if it is so likely to be harmful to persons [or property] that a reasonably prudent manufacturer [supplier], who had actual knowledge of its harmful character would not place it on the market. It is not necessary to find that this defendant had knowledge of the harmful character of the [product] in order to determine that it was not duly safe.[32]

This instruction should, however, be expanded to indicate that the danger must have been reasonably foreseeable or scientifically discoverable. It should be made clear that a seller should not ordinarily be held responsible for "unknowable" risks, except, perhaps, in certain special situations. If, for example, it should be determined that risk-spreading concepts justify imposition of liability on someone other than the injured person for an injury caused by an unavoidably unsafe product, perhaps the federal government should absorb such liability as a "social cost." Although the commentators would prefer to impose upon the manufacturer knowledge of all dangers in the product—whether they were unknowable at the marketing or not—the courts have consistently refused to adopt this approach. Although the courts have, in actuality, been applying little more than a traditional negligence test in products cases, some courts have failed to recognize this and have attributed more to strict liability than that which that concept really entails. This fact should be recognized in a clear statement of a single cause of action for products cases.

It should be pointed out, of course, that even if the basic standard of responsibility were reformulated so as to be less confusing to juries, there might well be little immediate effect on the price or availability of insurance. The Insurance Contractor has stated:

> Most insurers surveyed feel that . . . reform [of the basic standard of responsibility] would have little impact on the insurance market for several years, until the courts had been given ample opportunity to interpret whatever language was used in the legislation.[33]

Notwithstanding the lack of short-term effect on insurance rates, however, clarification of the basic standard of responsibility seems to be desirable as a means of mitigating much of the confusion in the law of products liability.

## NOTES

1. For a fuller discussion of this issue, *see* Vol. II section entitled "Whether a manufacturer has properly designed its product." *See also* Kiely, "The Art of the Neglected Obvious in Products Liability Cases: Some Thoughts on Llewellyn's *The Common Law Tradition*," 24 *DePaul L. Rev*. 914 (1975); Wade, "On the Nature of Strict Liability for Products," 44 *Miss. L.J*. 825 (1973); Keeton, "Product Liability and the Meaning of Defect," 5 *St. Mary's L.J*. 30 (1973); Hoenig, "Product Designs and Strict Tort Liability: Is There a Better Approach," 8 *S.W.U. L. Rev*. 109 (1976); Green, "Strict Liability under Sections 402A and 402B: A Decade of Litigation," 54 *Tex. L. Rev*. 1185 (1976).

2. Wade, *supra* note 1, at 850.

3. Kiely, *supra* note 1, at 915.

4. *Id*. at 917.

5. Hoenig, *supra* note 1, at 110.

6. Keeton, *supra* note 1, at 30.

7. *Cronin v. J.B.E. Olson Corp*., 8 Cal. 3d 121, 501 P.2d 1153 (1972). *See also* *Berkebile v. Brantly Helicopter Corp*., 337 A.2d 893 (Pa. 1975).

8. *Seattle-First National Bank v. Tabert*, 86 Wash. 2d 145, 542 P.2d 774 (1975).

9. *Phillips v. Kimwood Machine Co.*, 269 Ore. 485, 525 P.2d 1033 (1974). For a fuller treatment of state variations in the law, *see* discussion of "Action at the Federal Level" in the introduction to this volume.

10. *See* Wade, *supra* note 1, at 850; Green, *supra* note 1, at 1187.

11. While risk shifting is a major policy consideration underlying strict liability, *see* *Greenman v. Yuba Power Products, Inc*., 59 Cal. 2d 57, 377 P.2d 897 (1963), the concept of "defect" marks the outer zone of manufacturer liability and, as such, prevents pure enterprise liability, and certainly absolute liability, from applying.

12. *See, e.g.*, *Karjala v. Johns-Manville Products Corp*., 523 F.2d 155 (8th Cir. 1975) (applying Minnesota law); *Borel v. Fibreboard Paper Products Corp*., 493 F.2d 1076 (5th Cir. 1973), *cert. denied*, 419 U.S. 869 (1974) (applying Texas law); *Christofferson v. Kaiser Foundation Hospitals*, 15 Cal. App. 3d 75, 92 Cal. Rptr. 825 (1971); *Jones v. Hittle Service, Inc*., 219 Kan. 627, 549 P.2d 1383 (1976); *Cunningham v. Charles Pfizer & Co*., 532 P.2d 1377 (Okla. 1974).

13. *Restatement (Second) of Torts* § 402A, comment k. *See also* *Davis v. Wyeth Laboratories, Inc*., 399 F.2d 121 (9th Cir. 1968) (applying Montana law).

14. *See* *Restatement (Second) of Torts* § 402A, comment h; Noel, "Defective Products: Abnormal Use, Contributory Negligence and Assumption of Risk," 25 *Vand. L. Rev*. 93 (1972).

15. *See* *Olson v. Arctic Enterprises, Inc*., 349 F. Supp. 761 (D.N.D. 1972); *Maxted v. Pacific Cart Foundry Co*., 527 P.2d 832 (Wyo. 1975).

16. *See, e.g*., Keeton, *supra* note 1; Vetri, "Products Liability: The Developing Framework for Analysis," 54 *Ore. L. Rev*. 293 (1975).

17. Wade, supra *note* 1, at 850.

18. Wade, *supra* note 1, at 836-37 (footnotes omitted).

19. *See* *Horn v. General Motors Corp*., 551 P.2d 398, 406 (Cal. 1976) (Clark, J., dissenting).

20. *See* Wade, *supra* note 1; *Phillips v. Kimwood Machine Co*., *supra* note 9.

21. See, e.g., Schenebeck v. Sterling Drug, 423 F.2d 919 (8th Cir. 1970) (applying Louisiana law); Garst v. General Motors Corp., 207 Kan. 2, 484 P.2d 47 (1971); Micallef v. Miehle Co., Division of Miehle-Goss Dexter, Inc., 39 N.Y.2d 376, 384 N.Y.S.2d 115 (1976).

22.

> It will be noted that the test suggested for a defect makes no allowance for the fact that the maker was excusably ignorant of the risk that caused the product to be defective. Whether or not the scientific unknowability of the risk should be a roadblock to recovery is another question. If it is, then as the Supreme Court of California suggests, strict liability as to design defects is virtually a myth. This is not to say that negligence should be a prerequisite to recovery when the claim is based on the ground that the product was improperly designed. It is only to say that the courts must face the issue squarely and decide whether or not negligence is or is not to be a prerequisite to recovery.

Keeton, "Product Liability and the Meaning of Defect," 5 St. Mary's L.J. 30, 39 (1973).

23. See supra note 12.

24. Wade, supra note 1, at 835.

25. See American Mutual Insurance Alliance Survey of Large-Loss Products Liability Claims at 4. Eight insurance companies participated in this study of 1975 products liability cases.

26. Green, supra note 1, at 1192; Wade, supra note 1, at 850. But see Defense Research Institute, Inc., Products Liability Position Paper No. 9 (1976), where it is stated:

> While it may be interesting, from an academic standpoint, to speculate on how the law of products liability would have developed if the courts had refused to consider products cases under no theory other than negligence, we are hardly in a position to reverse over two hundred years of jurisprudence by turning back the clock and urging, for simplicity's sake if nothing more, that product actions be confined to only one theory of liability.

Id. at 10.

27. See supra notes 7-9.

28. See, e.g., Dippel v. Sciano, 37 Wis. 2d 443, 115 N.W.2d 55 (1967); Carsrell v. Altec Industries, Inc., 335 So. 2d 128 (Ala. 1976).

29. In order to establish a single cause of action, legislation would be required to eliminate any conflict with state enactments of the implied warranty provisions (§ 2-314) of the Uniform Commercial Code. The Defense Research Institute, while not in favor of establishment of a single cause of action, see supra note 26, has suggested a reformulation of § 402A. The Institute suggests minor changes in text of § 402A as it now exists, along with the addition of the two following provisions:

> (3) The rule stated in this section shall not be applied to actions in which it is alleged that the manner in which the product was designed caused that product to be in a defective condition unreasonably dangerous to the user or consumer or to his property.
>
> (4) The rule of this section shall not be applied in actions involving drugs, vaccines and like products which, in the state of human knowledge existing at the time of manufacture or processing, are incapable of being made completely safe for their intended use, but as to which use

> is deemed medically justified in light of dangers which might result from non-use.

*Products Liability Position Paper*, *supra* note 26, at 16 (footnote omitted). The Institute also suggests that a fifth provision be added to § 402A, which would clarify the meaning of "sale" and "defective condition unreasonably dangerous."

30. Wade, *supra* note 1, at 850.

31. *Id*.

32. *Id*., at 839-40.

33. Insurance Study; ITFPL-77/03, at 4-91

(2)

(2) Standards for Proper Design

(a) State of the Art Defense

# STATE OF THE ART DEFENSE

## I.

## Introduction

Many groups of manufacturers have complained that, in judging whether their products are unreasonably dangerous and thus "defective" at the time the products were sold, the courts have viewed the products in light of current technology and knowledge. This problem has been said to be especially acute with regard to durable industrial products. Manufacturers are sometimes held liable even though their product is as safe as other products in the industry at the time of sale. Thus, it has been suggested that a "state of the art" defense should be instituted, which would exonerate the manufacturer from liability where its product conformed to the industry norm at the time that the product was sold.

The courts, almost without exception, consider the factor of industry custom to be an important matter in concluding whether a manufacturer has fulfilled its duty to design a product that is not unreasonably dangerous. The clearest illustration of the importance of industry custom can be seen in cases where the plaintiff is able to prove that the product in question was designed in such a way that it was less safe than most similar products.

In such instances, courts generally have little difficulty in concluding that the manufacturer has defectively designed its product.[1] On the other hand, whether the cause of action is based on negligence, strict liability or breach of warranty, the general rule in nearly all jurisdictions is that, while evidence of conformance to industry practices is admissible with regard to the issue of proper design, it does not conclusively establish that the design of the product was not, in fact, defective. The reason for this is that the courts have long recognized that an entire industry may have been remiss in not improving upon common practices.[2]

The term "state of the art" has proved to be a confusing one to the courts. While some courts equate the meaning of the "state of the art" with common industry customs,[3] other courts have taken a broader view of the term and include within its purview the feasibility of effecting, within practical and technological limits, modifications in the product which would enhance its safety.[4] When "state of the art" is given its broader connotation, most courts concur in the view that the practical and technological feasibility of employing an alternative design to improve the safety of a product is an important factor to be considered in the determination of whether a product is defectively designed.[5] If an alternative design is not shown to have been feasible at the time of sale, the manufacturer will generally be relieved from liability. On the other hand, the manufacturer will not necessarily be exonerated merely because its product conformed to the industry custom at the time the product was sold.

## II.

### Assessment

A statutory state of the art defense, providing that conformance of the product to industry custom at the time of sale is an absolute defense is untenable because institution of such a defense would reduce manufacturer's incentives to improve the safety aspects of their products. Nevertheless, manufacturing groups have designated a state of the art defense, along with a statute of limitations modification at the federal level and a useful life limitation on liability, as one of the most desirable changes in tort law.[6] Others have concluded further that a state of the art defense is preferable to a statute of limitations modification.[7] Recognizing that the "importance of technology, lengths of product lives, and . . . varying social policies"[8] differ between consumer products and industrial products, a spokesperson for the

National Tool, Die and Precision Machining Association has advocated institution of a state of the art defense which would exclude consumer products as defined by the Consumer Safety Product Act.[9] An approach which attempts to take the nature of the product into account, however, could perhaps best be effected through the concept of determining a "useful life" for products, after which no liability for defects would exist.

## III.

## The Model

A "state of the art" defense would provide an absolute defense when the product was designed or manufactured in conformity with the prevailing custom in the industry.[10] The benefits to manufacturers of such a defense are clear. Manufacturers could market their products with virtual assuredness that the product would not be later adjudged to be defective, as long as the product met industry standards at the time of marketing. With the elimination of much uncertainty, insurance rates would be correspondingly lowered.[11]

Before the institution of a "state of the art" defense can be explored, it is first necessary to respond to the Illinois view that state of the art evidence is irrelevant in a suit based on strict liability. This view originated in the case of Cunningham v. MacNeal Memorial Hospital,[12] in which the Supreme Court of Illinois held a hospital liable for injuries resulting from a transfusion of blood infected with serum hepatitis, even though there was no means by which the hepatitis virus could be detected:

> [W]e believe that whether or not defendant can, even theoretically, ascertain the existence of serum hepatitis virus in whole blood employed by it for transfusion purposes is of absolutely no moment. Any other ruling would be entirely inconsistent with the concept of strict tort liability.[13]

The Cunningham case has been widely criticized by other courts for misinterpreting the meaning of comment K to § 402A of the Restatement (Second) of Torts, which establishes an exception to the rule of strict liability for products which, although generally beneficial, are unavoidably unsafe in that there can be no assurance of safety or purity of ingredients.[14] The legislative reaction to decisions such as Cunningham has been particularly strong, and only a few states remain in which statutes do not exist that absolve blood suppliers from liability where hepatitis-infected blood is transfused.[15]

The effect of Cunningham does not end with the blood cases, however. Because Cunningham was "unqualified in the language employed, and in no way limited to the type of product there involved,"[16] a number of appeals courts in the state of Illinois have interpreted the decision to support the proposition that state of the art evidence is irrelevant in all strict liability cases. Thus, in the first decision so to hold, Gelsumino v. E.W. Bliss Co.,[17] where the design of a foot pedal on a punch press was at issue, the court held:

> [W]e find that the "state of the art" defense is irrelevant with respect to the two strict liability counts and inconclusive with respect to the two negligence counts.[18]

Following the lead of Cunningham and Gelsumino, other Illinois appeals courts have held, in strict liability cases, that evidence relating to the testing of a product is irrelevant;[19] that evidence of industry standards is inadmissible;[20] and that whether it was feasible to install safety devices on the product is irrelevant.[21] In strict liability actions, then, Illinois not only follows the rule that industry custom is inconclusive, but also that it is irrelevant. Moreover, evidence of the feasibility of alternative designs is also irrelevant in determining whether the product has been properly designed.

Obviously, the Illinois view imposes insurer liability upon manufacturers.[22] This has never been the purpose of strict products liability. Rather, all courts, even those in Illinois,[23] purport to agree that a manufacturer is not the insurer of its product, and that it is the concept of "defect" which marks the zone of manufacturer liability.[24]

All states, with the exception of Illinois, appear to agree that the feasibility of alternative designs is an important factor to be considered in determining whether a product was defectively designed at the time that it was marketed.[25] Thus, in many recent decisions, the issue of whether liability should be assigned to the manufacturer has been held to be dependent upon whether the plaintiff was able to prove that the manufacturer could have utilized an alternative design that was economically cost-justified and technologically feasible, and that would have avoided or mitigated the injury.[26]

The automobile "crashworthiness" cases are merely representative of the many cases in which courts have, in fact, required proof that an alternative design was feasible in order to hold a manufacturer liable for a defectively designed product.[27] Yet, respected commentators have voiced fears that, because there is an unmistakable national trend toward allowing evidence of design or testing modifications which were effected only after a product was marketed, the courts have sanctioned an approach whereby a product is evaluated on the basis of what is known at the time of trial, rather than what was known at the time the product was marketed.[28]

It is true that many courts have allowed such evidence,[29] and even those courts that have refused to do so have acknowledged the trend in favor of admitting evidence of post-marketing changes.[30] This is not to say, however, that the courts allow the product to be evaluated with the benefit of hindsight. Rather, the courts that admit evidence of post-marketing improvements invariably stress that such evidence may be used for only limited purposes. Thus, the rule is that evidence of post-marketing alterations is inadmissible to prove negligence, but is admissible to demonstrate knowledge of the dangerous propensities of the product, or the availability of a better design or of a more adequate warning.[31]

It has been suggested that evidence of post-marketing improvements serves little purpose but to confuse the jury.[32] In response, it has been argued that proper limiting instructions, which are used in all areas of the law, should be sufficient to avoid confusion between evidence of negligence and evidence of feasible alternatives. In this view, as long as the court takes care to emphasize the purpose of the admission of such evidence and the necessity of feasibility at the time of marketing, it is proper that such evidence be admissible for jury consideration.[33]

Just as there is no evidence to support the fear that post-marketing evidence is being admitted for improper purposes, there is also no evidence to substantiate the view that manufacturers are being held responsible for risks in their products which were not, or should not have been, known to them at the time the product was marketed. It is by now well recognized that the difference between negligence and strict liability in design defect cases is that the element of scienter—knowledge of the dangerous propensities of the product—is imputed to the manufacturer when strict liability is applied.[34] Because, however, the manufacturer is held to the standard of expert in its field,[35] it will be a rare case indeed where the manufacturer "should not" have known of the dangers in its product although those dangers were knowable at the time of the marketing.

Recognizing the convergence of the theories of negligence and strict liability in design cases, the commentators have argued that, for strict liability to be of any consequence in such cases, knowledge of risks that were unknowable at the time of marketing should be imputed to manufacturers.[36] This, however, the courts have consistently failed to do. Although there is language in some cases which appears to indicate a leaning toward imputation of knowledge of unknowable risks upon the manufacturer,[37] the overwhelming majority of courts have evaluated the product on the basis of what dangers could have been known at the time of marketing.[38]

## IV.

## The Proposed Remedy

There is scant evidence, then, from which to conclude that courts are, in effect, evaluating products on the basis of what alternative designs were feasible or what risks were knowable, at the time of trial rather than at the time of marketing. The effect of instituting a state of the art defense is to exonerate the manufacturer from liability, even where it could have utilized a different design or method of testing which was feasible, in terms of practicality and technology, at the time the product was marketed. Stated otherwise, no liability would exist when the product conformed to industry standards, even where the standard of the industry was one of negligence.

Institution of a state of the art defense of this type is untenable. All courts that have considered the issue have resoundingly rejected imposition of such a defense. Each of these courts has strongly emphasized that the allowance of this defense would reduce the manufacturer's incentives to improve the safety of its product.[39] An indication of how a state of the art defense can be abused by industries is provided in such cases as Horn v. General Motors Corp.[40] and Badorek v. General Motors Corp.[41]

It is true that not all incentives to improve product safety would be eliminated by the institution of a state of the art defense. Indeed, it has been argued that the aspect of the state of the art defense that would exclude evidence of post-accident modifications would enhance safety incentives because, when such evidence is allowed, the manufacturer may be reluctant to make changes, lest they be used in evidence against it.[42] However, the response to this argument is that other economic considerations, such as the reduction of future liability and consumer demand for safety, tend to encourage improvements, even if such evidence is admitted in a suit against the manufacturer.[43]

There is no logic, moreover, in the argument that, because some incentives for safety would remain, despite institution of a state of the art defense, the retention of other incentives becomes unnecessary.[44] To impose no manufacturer liability where dangerous designs could have been easily eliminated could lead only to the prolongation of dangerous industry practices by those in the best position to avoid the risk and absorb the loss. Exoneration from liability for such dangerous practices not only removes an important incentive for risk prevention on the party best able to implement prevention techniques, but also places the cost of the injury on the party who is frequently least able to absorb it. Such a price seems too high to pay for the marginally lower liability insurance premiums which manufacturers may obtain as a result.

Furthermore, in the great majority of cases where the product in question conforms to industry standards, a finding of no liability is already dictated by present law. As Dean Prosser has observed:

> Cases will no doubt be infrequent in which any defendant will be held liable for failing to do what no one in his position has ever done before; but there appears to be no doubt that they can arise.[45]

Therefore, a state of the art defense would produce different results in only those cases where the industry, and the particular defendant as a member of that industry, have been negligent in not improving customary practices.

## V.

## Economic Impact

Adoption of a "state of the art" defense would have certain likely economic implications. At the outset, this approach is essentially equivalent to a safety standard compliance approach. The only difference is that, in this instance, the safety standard of design is what is customary and usual in a particular industry. To this extent, if a state of the art defense were applied literally and absolutely, only manufacturers whose product design was "less than" the industry average would be held liable for a consumer's injuries sustained in a product-related accident.

The likely result is economically appropriate only if the average manufacturer will undertake all economically-efficient measures to make its products safer and to prevent accidents, even without legal standards which clearly make it worthwhile for the manufacturer to do so. However, this is not likely to happen. Manufacturers are normally not willing, in the absence of legal "coercion," to expend resources and prevent accidents with respect to consumers who are not their customers. Where the accident victim is not a customer of the given manufacturer, he has no way of paying the manufacturer, through a higher price for the product, to take measures to increase the product's safety, to reduce the likelihood of the accident, and hence to reduce the expected accident cost. Conversely, the manufacturer's own customers will not be willing to pay for the prevention of accidents of which they are not the victims, inasmuch as these customers do not benefit from the increased safety of the product.

It is therefore very likely that the average industry level of safety may be less than economically efficient. Making a state of the art defense "absolute," and thereby denying recovery to accident victims in such cases, appears to aggravate this situation. Indeed, it may be that this is one of the reasons that the courts appear to have rejected such an approach and only allow compliance with an industry custom to be admitted as relevant rather than dispositive evidence.

Where any given product is most likely to "cause" an accident to customers of a manufacturer in that industry, the level of resources devoted to safety in that industry will be closer to optimal, and the level of safety closer to the economically efficient level. In such a situation, resources will be devoted to product safety research and development, to the point where the cost and application of new product safety technology equals the reduction in accident costs attendant to the introduction of new safety improvements.

## NOTES

1. See, e.g., Jiminez v. Sears, Roebuck & Co., 4 Cal. 3d 379, 482 P.2d 681 (1971). Evidence of deviation from the norm, however, is neither conclusive on the issue of defect, nor negligence per se. See DePree v. Nutone, Inc., 422 F.2d 534, 536, n. 1 (6th Cir. 1970) (applying Michigan Law); Ulrich v. Kasco Abrasives Co., 532 S.W.2d 197 (Ky. 1976). A product that deviates from the industry norm may, in fact, be safer than the customary product in the industry. "The designer may have applied more advanced technology, forerunning the industry." Powell & Hill, "Proof of a Defect or Defectiveness," 5 U. Balt. L. Rev. 77, 85 (1975).

2. In the 1932 decision in The T.J. Hooper, 60 F.2d 733 (2d Cir. 1932), Judge Learned Hand, responding to the defendant's argument that it had not been negligent in not having a radio receiver on its tugboat, inasmuch as the industry had not yet generally adopted receiving sets, stated:

    > Indeed in most cases reasonable prudence is in fact common prudence; but strictly it is never its measure; a whole calling may have unduly lagged in the adoption of new and available devices. It never may set its own tests, however persuasive be its usages. Courts must in the end say what is required; there are precautions so imperative that even their universal disregard will not excuse their omission.

    60 F.2d at 740. See also Texas & P.R. Co. v. Behymer, 189 U.S. 468 (1903). In a letter dated October 13, 1976, to Professor Victor E. Schwartz, Project Director of the Interagency Task Force on Product Liability, Dennis R. Connolly, Associate Counsel of the American Insurance Association, stated that "[W]e tend to agree with Judge Learned Hand's decision in The T.J. Hooper . . . that an entire industry can be laggard or neglectful."

    While the T.J. Hooper case involved an action based in negligence, the general principle announced in that case is widely applied in modern products litigation. See, e.g., Ford Motor Co. v. Thomas, 285 Ala. 214, 231 So. 2d 88 (1970); Jones v. Bucyrus-Erie Co., 323 So. 2d 633 (Fla. App. 1975); Jones v. Hutchinson Manufacturing, Inc., 502 S.W.2d 66 (Ky. 1973); Hill v. Husky Briquetting, Inc., 54 Mich. App. 17, 220 N.W.2d 137, aff'd, 393 Mich. 136, 223 N.W.2d 290 (1974). See also "Standards, Certification Quality Assurance and the Products Liability Problem," a publication of the American National Standards Institute, September 13, 1976, where the author, William Rockwell, arguing for the promulgation of mandatory product safety standards, notes:

    > If the manufacturer's design review procedures were not based on "industry practice", industry standards, national consensus standards or mandatory government standards, it may well be that his design was faulty. Perhaps even the industry trade association (in-house) standard is faulty. In these cases it could be appropriate, with the assistance of expert witnesses, to allow the judge/jury to decide whether the design used presented an unreasonable risk.

    Id. at 6.

3. See, e.g., Lunt v. Brady Manufacturing Corp., 13 Ariz. App. 305, 475 P.2d 964 (1970); Wagner v. Coronet Hotel, 10 Ariz. App. 296, 458 P.2d 390 (1969); Horn v. General Motors Corp., 551 P.2d 398 (Cal. 1976).

4. See, e.g., Badorek v. General Motors Corp., 11 Cal. App. 3d 902, 90 Cal. Rptr. 305, 328 (1920); Sutkowski v. Universal Marion Corp., 5 Ill. App. 3d 313, 281 N.E.2d 749 (1970).

5. See, e.g., Dreisonstok v. Volkswagenwerk, A.G., 489 F.2d 1066 (4th Cir. 1974) (applying Virginia law); Balido v. Improved Machinery, Inc., 29 Cal. App. 3d 633, 105 Cal. Rptr. 890 (1973); Young v. Volkswagen of America, 272 Md. 201, 321 A.2d 737 (1974).

6. See, e.g., Statement of Anton Effgen, Jr. for the National Tool Die and Precision Machining Association before the Senate Select Committee on Small Business, September 10, 1976, at 13.

7. See Memorandum to the Working Task Force on Product Liabilities from Barry Chiswick and Timothy Quinn, Staff Economists on the Council of Economic Advisers, October 26, 1976, at 6. Selected Working Papers of the Task Force ITFPL-77/05.

8. Statement of Anton Effgen, Jr., for the National Tool, Die and Precision Marketing Association, before the Senate Small Business Committee, September 10, 1976, at 12.

9. The suggested defense provides:

> In any action to recover damages for injury to the person or to real or personal property caused by any product other than a consumer product as defined by the Consumer Product Safety Act, 15 U.S.C. § 2052(a)(1), alleged to be in a defective condition, or alleged to have been negligently manufactured or sold, it shall be a complete defense for the manufacturer or seller of such product if it be proved that such product is not defective or unreasonably unsafe, or that it was not manufactured or sold in a negligent manner. A product is not defective or unreasonably unsafe or negligently manufactured or sold if it was manufactured and sold according to the standards of reasonable safety or due care prevailing at the date of manufacture or sale of such product.

*Id.* at 15.

10. The statutory form of the proposed remedy, as patterned after Proposed Kansas Senate Bill No. 852, makes conformity with industry standards an *absolute* defense in a products liability suit, and excludes evidence of post-marketing improvements. Subsection 2 of § 8 of the Kansas bill, as amended, provides:

> (2) No manufacturer or seller of a product shall be liable to any person for any injury, death or property damage caused by the plan or design or the manufacture, inspection or testing of a product where the plan, design, methods, standards and techniques of manufacturing, inspecting and testing were prepared and used in conformity with the generally recognized and prevailing state of the art in existence at the time such plan, design, methods, standards and techniques were prepared or used.
>
> (b) In any civil action against a manufacturer or seller of a product for damages for personal injury, death or property damage caused by a defect in such product, or by failure to warn or protect against any danger or hazard which may arise in the use or misuse of such product, or by failure to properly instruct in the use of such product, the following evidence shall not be admissible for any purpose:
>
> (1) Evidence of any advancements or changes in technical or other knowledge or techniques, in design theory, knowledge or philosophy, in instructions for use of such product, in testing procedures, or in manufacturing knowledge, techniques or processes, which such advancements or changes have been made or learned, became available, or were placed into use subsequent to the design or manufacture of the product causing such injury, death or damage.
>
> (2) Evidence of any changes made in the design, testing, inspecting, manufacture or instructions for use of the product, or in or for any similar product, which such change or changes was or were made or placed into use subsequent to the design or manufacture of the defective product.

*See also* Testimony of Mr. E.H. Rosenberg, President of Retort, Inc. before the Massachusetts Judiciary Committee on March 29, 1976. Mr. Rosenberg recommended institution of a bill similar in all respects to the Kansas bill.

11. The Insurance Contractor, while concluding that prospects for the establishment of a state of the art defense are slim, nevertheless posits that such a defense "would have a significant impact on products insurance availability and cost." Insurance Study; ITFPL-77/03 at 4-94

12. 47 Ill. 2d 443, 266 N.E.2d 897 (1970).

13. 266 N.E.2d at 903.

14. See, e.g., McMichael v. American Red Cross, 532 S.W.2d 7 (Ky. 1975); Brody v. Overlook Hospital, 127 N.J. Super. 331, 317 A.2d 392 (App. Div. 1974), aff'd, 66 N.J. 448, 332 A.2d 597 (1975); Hines v. St. Joseph's Hospital, 86 N.M. 763, 527 P.2d 1075 (N.M. App. 1974). Comment K to § 402A, which is entitled "unavoidably unsafe products", states:

> There are some products which in the present state of human knowledge, are quite incapable of being made safe for their intended and ordinary use. These are especially common in the field of drugs. An outstanding example is the vaccine for the Pasteur treatment of rabies, which not uncommonly leads to very serious and damaging consequences when it is injected. Since the disease itself invariably leads to a dreadful death, both the marketing and the use of the vaccine are fully justified, notwithstanding the unavoidable high degree of risk which they involve. Such a product, properly prepared, and accompanied by proper directions and warning, is not defective, nor is it unreasonably dangerous. The same is true of many other drugs, vaccines, and the like, many of which for this very reason cannot legally be sold except to physicians, or under the prescription of a physician. It is also true in particular of many new or experimental drugs as to which, because of the lack of time and opportunity for sufficient medical experience, there can be no assurance of safety, or perhaps even of purity of ingredients, but such experience as there is justifies the marketing and use of the drug notwithstanding a medically recognizable risk. The seller of such products, again with the qualification that they are properly prepared and marketed, and proper warning is given, where the situation calls for it, is not to be held to strict liability for unfortunate consequences attending their use, merely because he has undertaken to supply the public with an apparently useful and desirable product, attended with a known but apparently reasonable risk.

15. In 1975, only four states, New Jersey, New York, Rhode Island and Vermont did not have statutes limiting the liability of certain blood supplies. See Comment, 3 Fla. St. U.L. Rev. 483 (1975).

16. Karasik, "'State of the Art or Science': Is It a Defense to Products Liability?", 60 Ill. B.J. 348, 357 (1972).

17. 10 Ill. App. 3d 604, 295 N.E.2d 110 (1973).

18. Id., 295 N.E.2d at 113.

19. McKasson v. Zimmer Manufacturing Co., 12 Ill. App. 3d 429, 299 N.E.2d 38 (1973).

20. Matthews v. Stewart Warner Corp., 20 Ill. App. 3d 470, 314 N.E.2d 683 (1974).

21. Stanfield v. Medalist Industries, Inc., 34 Ill. App. 3d 635, 340 N.E.2d 276 (1975).

Not all Illinois courts concur in the view that state of the art evidence is irrelevant in strict liability cases, however. The third district, for example, holds that evidence of post-marketing design changes should be allowed as relevant to the question of feasibility of alternative designs. *See Cunningham v. Yazoo Manufacturing Co.*, 350 N.E.2d 514 (Ill. App. 1976); *Biehler v. White Metal Rolling & Stamping Corp.*, 30 Ill. App. 3d 435, 333 N.E.2d 716 (1975). The second district appears to be consistent in the view that state of the art evidence is irrelevant. *Stanfield v. Medalist Industries, Inc.*, *supra*; *McKasson v. Zimmer Manufacturing Co.*, *supra* note 19. The first district, however, appears unsure. While in *Matthews v. Stewart Warner Corp.*, *supra* note 20, and *Gelsumino v. E.W. Bliss Co.*, *supra* note 17, state of the art evidence was said to be irrelevant, the court nevertheless stated in *McClellan v. Chicago Transit Authority*, 34 Ill. App. 3d 151, 340 N.E.2d 61 (1975), that part of the plaintiff's *prima facie* case is proof of the feasibility of an alternative design. Obviously, the law of Illinois is in need of clarification.

22. By eliminating evidence of industry custom and of the feasibility of improving upon that custom, Illinois has removed one of the most important tests for determining whether a product is defective.

23. *Williams v. Brown Manufacturing Co.*, 45 Ill. 2d 418, 261 N.E.2d 305 (1970); *Mullen v. General Motors Corp.*, 32 Ill. App. 3d 122, 336 N.E.2d 338 (1975).

24. *See, e.g.*, *Royal v. Black & Decker Manufacturing Co.*, 205 So. 2d 307 (Fla. App. 1968); *Snider v. Bob Thibodeau Ford, Inc.*, 42 Mich. App. 708, 202 N.W.2d 727 (1972); *Turner v. Manning, Maxwell & Moore, Inc.*, 216 Va. 245, 217 S.E.2d 863 (1975). The test of whether a product is defective involves balancing the risks of a product against its utility. In conducting this process, the feasibility of utilizing an alternative design which would alleviate the dangers in the product is an important factor to be considered. Indeed, even if the viability of the *Cunningham* case is conceded in special instances where risk-spreading theories justify the imposition of liability, it is clearly impractical to adhere to such a view in all products cases. *See* Fischer, "Products Liability - The Meaning of Defect," 39 *Mo. L. Rev.* 339 (1974). With the caveat that the attempt at risk-shifting could backfire, the author there approves of the *Cunningham* decision on policy grounds:

> Strict liability is highly desirable from the point of view of the donee in such cases. He is not in a good position to bear the loss since the consequences of receiving contaminated blood can be disastrous. The self-protective measures open to him are also quite limited. He may not be aware of the risk if the information has been withheld for medical reasons. Even if he does know, he cannot minimize the risk by careful use of the product since he cannot identify which pint of blood is contaminated. The only protective measure open to him is to forego use of the product. If he needs medical treatment which involves blood transfusions, he has no effective choice.
>
> The safety incentive policy would surely be advanced by the imposition of strict liability. Because of price competition, the medical profession would be encouraged to find a way to either detect the virus or to minimize the donee.

*Id*. at 353-54 (footnotes omitted). At the same time, however, the *Gelsumino* case is criticized:

> A need for some criteria to limit liability is apparent. In *Gelsumino v. E.W. Bliss Co.*, defendant manufactured an unguarded punch press that could be operated with a foot pedal. The plaintiff slipped while operating the machine, put his hand in the dye, and accidentally triggered the foot switch. Serious injuries resulted.

> Defendant contended that the design was not unreasonably dangerous because it conformed to the state of the art existing at the time of manufacture. The Illinois Appellate Court cited Cunningham v. MacNeal for the proposition that the state of the art defense did not apply to strict liability cases. Suppose the punch press had fallen on the plaintiff in the course of being carefully unloaded. Would the manufacturer be liable for this harm? Would the manufacturer of a knife be held strictly liable to everyone who is cut by the knife? True, the risk is obvious to the user, but so was the risk in Gelsumino. Surely the plaintiff did not need to be told to keep his hand out of the dye area while stepping on the foot pedal.

Id. at 358 (footnotes omitted). Similarly, another commentator, in evaluating Gelsumino, has observed:

> By eliminating the state of the art defense, it thus becomes irrelevant that the product is incapable of being made safe. Therefore, the court, in effect, imposed insurer liability on manufacturers of products which foreseeably may cause serious injury.

Note, 41 Tenn. L. Rev. 357, 359 (1974). Cf. E.R. Squibb & Sons, Inc. v. Stickney, 274 So. 2d 898 (Fla. 1973).

25. But see Foglio v. Western Auto Supply, 56 Cal. App. 3d 470, 128 Cal. Rptr. 545 (1976), where the court appears to have held that compliance with industry custom is irrelevant in a strict liability case. This is apparently an inaccurate statement of California law. Rather, while compliance is certainly not a conclusive defense, it is relevant because the Supreme Court of California requires proof that an alternative design was feasible in order to impose liability. Compare Buccery v. General Motors Corp., 132 Cal. Rptr. 605 (Cal. App. 1976), where the court stated:

> [A]ny product so designed that it causes injury when used or misused in a foreseeable fashion is defective if the design feature which caused the injury created a danger which was readily preventable through the employment of existing technology at a cost consonant with the economical use of the product.

132 Cal. Rptr. at 614. See Horn v. General Motors Corp., infra note 27.

26. An unusually clear example of the application of these principles is illustrated in the 1976 California case of Baker v. Chrysler Corp., 55 Cal. App. 3d 710, 127 Cal. Rptr. 745 (1976). There, plaintiff alleged that he had suffered enhanced injuries in an accident, due to the manufacturer's design of the front end of its automobile. The trial court charged the jury that the plaintiff had the burden of establishing that reasonable alternative designs were feasible in order to recover. In affirming a verdict for the manufacturer, the court approved of this instruction:

> Requiring an injured plaintiff who seeks damages against a manufacturer on the basis of strict liability in tort for a defective design to show that alternative designs for the product could reasonably have been developed does not enlarge plaintiff's burden of proof. An injured plaintiff has always had the burden to prove the existence of the defect. The reasonableness of alternative designs, where a design defect is claimed, is part of that burden.

127 Cal. Rptr. at 751. Similarly, in another 1976 case, Huddell v. Levin,

537 F.2d 726 (3d Cir. 1976), the Third Circuit Court of Appeals stressed the necessity for proof of feasible alternatives. In the Huddell case, a doctor was killed when the design of the head rest in his vehicle allegedly enhanced injuries received in a crash, causing his death. In reviewing the evidence, the court observed:

> First, in establishing that the design in question was defective, the plaintiff must offer proof of an alternative, safer design, practicable under the circumstances. This the plaintiff did: plaintiff's expert . . . introduced into evidence the head restraints of several other automobile manufacturers which allegedly were better designed; and it was suggested that G.M.'s head restraint would have been safer if it had merely been turned around so that the "ax-like" portion was not "aimed" at the rear of the driver's head.

537 F.2d at 737. The jury verdict for the plaintiff was reversed, however, because the plaintiff had failed to prove that the injuries would have been mitigated if the alternative design had been utilized.

27. See Olson v. Arctic Enterprises, Inc., 349 F. Supp. 761 (D. N.D. 1972) (Where the plaintiff alleged that the design of a snowmobile was defective because it lacked handholds, the manufacturer was exonerated from liability since there was no evidence that such a design was feasible; Horn v. General Motors Corp., 551 P.2d 398 (Cal. 1976) (Where plaintiff suffered enhanced injuries after her chin came into contact with sharp prongs under the horn cap, a jury verdict for plaintiff was upheld where evidence indicated that there were several ways of alternately designing the cap to prevent it from being knocked off, and that the increased costs of such a design would not have been significant.); Roach v. Kononen, 269 Ore. 457, 525 P.2d 125 (1974) (Even though plaintiff introduced evidence that an alternative design of the hood latch, which was in use at the time that the car was manufactured at no extra cost, would have prevented the accident, the jury verdict for the manufacturer was upheld.); Maxted v. Pacific Car & Foundry Co., 527 P.2d 832 (Wyo. 1975) (although plaintiff introduced evidence that a theoretical "jettison device," which had never been used in the trucking industry, could have been designed, the trial court properly granted summary judgment to the manufacturer.)

28. See, e.g., Address by Warren Freedman, Esq., before a meeting of the Manufacturer's Liability Committee, Section of Litigation, at the Annual Meeting of the American Bar Association, at Atlanta, Georgia, on August 9, 1976.

29. See, e.g., Lolie v. Ohio Brass Co., 502 F.2d 741 (7th Cir. 1974) (applying Illinois law); Ault v. International Harvester Co., 13 Cal. 3d 113, 528 P.2d 1148 (1974); Biehler v. White Metal Rolling & Stamping Corp., supra note 21; do Canto v. Ametek, Inc., 1975 Mass. Adv. Sh. 1591, 328 N.E.2d 873.

30. See, e.g., Smyth v. Upjohn Co., 529 F.2d 803 (2d Cir. 1975) (applying New York law).

31. Sterner v. U.S. Plywood-Champion Paper, Inc., 519 F.2d 1352 (8th Cir. 1975) (applying Iowa Law). Freedman, supra note 28, has specified seven purposes for which post-marketing alterations have been admitted:

> 1. Where evidence shows the practicality or feasibility of setting up the original or even the alternative safety precaution, provided same is controverted;
> 2. Where the evidence delineates protective devices added after the accident, provided that the manufacturer knew of the possible hazards beforehand and had designed and prepared the protective devices before the accident;
> 3. Where there are controverted letters in evidence dealing with future protective measures which reveal the dangerous propensities of the product;

> 4. Where the evidence shows that the change was necessary before the accident to satisfy a definite safety rule or standard;
> 5. Where the evidence contradicts a witness or impeaches the credibility of the defendant;
> 6. Where the evidence deals with the issue of control or ownership of the product, provided that such control or ownership is controverted; and,
> 7. Where the evidence shows that the prior and post accident warning labels were substantially the same.

Id. at 6-7 (emphasis in original and footnotes omitted).

32. See, e.g., Gaenzele v. Wallace Products Corp., 350 N.E.2d 571 (Ill. App. 1976). Freedman, supra note 28, argues against admission of this evidence because "a court and/or jury might still construe such evidence as proof of an admission of fault." Id. at 3.

33. Powell & Hill, supra note 1, have stated the rules in regard to post-marketing changes:

> Although evidence of changes in design made subsequent to an occurrence is generally inadmissible, especially where offered to prove negligence, this evidence may be admissible to prove the feasibility of an alternate design which would not have produced a like result. A foundation for this evidence requires proof that the design criteria resulting in the change was available when the original design was developed. If it was, then the change does reflect upon existing alternatives available at the time of manufacture and raises a factual issue as to whether the designer made a reasonable choice. On the other hand, if evidence shows that the change was brought about by the development of a new process or material, or a new discovery, then that data was not available and constitutes proof that the designer could not have taken it into consideration.

5 U. Balt. L. Rev. at 88 (footnotes omitted).

34. See Wade, "On the Nature of Strict Liability for Products," 44 Miss. L.J. 825 (1973); Phillips v. Kimwood Machine Co., 269 Ore. 485, 525 P.2d 1033 (1974). For a fuller treatment of this issue, see discussion of "the Basic Standard of Responsibility in Products Liability Cases."

35. See, e.g., Schenebeck v. Sterling Drug, 423 F.2d 919 (8th Cir. 1970) (applying Arkansas law); Garst v. General Motors Corp., 207 Kan. 2, 484 P.2d 47 (1971); Micallef v. Miehle Co., Division of Miehle-Goss Dexter, Inc., 39 N.Y.2d 376, 384 N.Y.S.2d 115 (1976). Note, "The State of the Art Defense in Strict Product Liability," 57 Marq. L. Rev. 649, 652 (1974).

36. See Vetri, "Products Liability: The Developing Framework for Analysis," 54 Ore. L. Rev. 293 (1975); Keeton, "Product Liability and the Meaning of Defect," 5 St. Mary's L.J. 30 (1973); Keeton, "Products Liability - Inadequacy of Information," 48 Tex. L. Rev. 398 (1970).

37. See, e.g., Hamilton v. Hardy, 549 P.2d 1099 (Colo. App. 1976); Cunningham v. Charles Pfizer & Co., 532 P.2d 1377 (Okla. 1975); Haugen v. Minnesota Mining & Manufacturing Co., 550 P.2d 71 (Wash. App. 1976). In these cases, courts have imposed a strict liability standard in treating the duty to warn issue. However, none of these cases would necessarily have been decided differently under a negligence standard. In Cunningham, where plaintiff contracted polio after taking a vaccine, the court expressly stated that, under § 402A, the manufacturer's duty was to warn of "known risks involved in taking a drug," 532 P.2d at 1380, and pointed to defendant's awareness of evidence

which indicated that polio could be caused by taking the vaccine in question, at the time the plaintiff was immunized.

Similarly, in Hamilton, it was held that the trial court had erred in failing to instruct the jury on strict liability on the failure to warn issue, where plaintiff suffered a stroke after taking birth control pills. However, there was overwhelming evidence that the pills might have a relationship to thrombosis at the time plaintiff took the pills, even though a causal relation had not been definitely established.

In Haugen, the court also held that there was a difference between negligence and strict liability in failure to warn cases, and concluded that the trial court had properly submitted the failure to warn issue to the jury on both theories. There, plaintiff was injured when a grinding wheel exploded and a portion of the wheel punctured plaintiff's eye. While it may be that the explosion was not a foreseeable danger, the evidence indicated that the reason for the explosion was that the disc had been improperly "heat-cured" during manufacture. Thus, the duty to warn arose only through a defect in the product as a result of the faulty manufacturing process.

Essentially, then, while these cases purport to recognize a difference between negligence and strict liability in duty to warn cases, they do not impute unknowable risks to the manufacturer and thus fail to enunciate any true difference between the theories. See also Phillips v. Kimwood Machine Co., supra note 34.

38. Karjala v. Johns-Manville Products Corp., 523 F.2d 155 (8th Cir. 1975) (applying Minnesota law); Christofferson v. Kaiser Foundation Hospitals, 15 Cal. App. 3d 75, 92 Cal. Rptr. 825 (1971); Jones v. Hittle Service, Inc., 219 Kan. 627, 549 P.2d 1383 (1976). As the Fifth Circuit Court of Appeals has stated:

> The requirement that the danger be reasonably foreseeable, or scientifically discoverable, is an important limitation of the seller's liability.

Borel v. Fibreboard Paper Products Corp., 493 F.2d 1076, 1088 (5th Cir. 1973), cert. denied, 419 U.S. 869 (1974) (footnote omitted) (applying Texas law).

39. The Court of Appeals of Kentucky, for example, in considering an argument that industry custom should control, has stated:

> [I]f an industry adopts careless methods, it cannot be permitted to set its own uncontrolled standard. . . . If the only test is to be that which has been done before, no industry or group will ever have any great incentive to make progress in the direction of safety.

Jones v. Hutchinson Manufacturing, Inc., 502 S.W.2d 66, 70 (Ky. 1973). This case is a clear example of proper application of state of the art principles. Although industry custom was held not to be conclusive evidence of non-defectiveness, the manufacturer nevertheless was held not liable, because the plaintiff failed to prove that an alternative design was available, or that the industry norm was unreasonably dangerous:

> The evidentiary showing conclusively demonstrates that the product conformed to the design as to safety developed by the industry. There was no attempt to claim that the theoretical design arrived at by the plaintiff's expert after the accident was known or available prior to or at the time of the accident or that common knowledge and ordinary judgment would have recognized as unreasonably dangerous the design uniformly adopted by the industry.

502 S.W.2d at 71. Similarly, the Federal District Court for the Eastern District of New York has pointed out:

> The fact that the safety practices of entire industries have been held to be below the standard of reasonable care indicates the need for broad safety incentives.

*Hall v. E.I. DuPont de Nemours & Co.*, 345 F. Supp. 353, 368 (E.D.N.Y. 1972). Many other courts are in accord with the position of these courts, and have opined that a compliance with industry custom defense would reduce incentives to produce safer products. *See, e.g., Griggs v. Firestone Tire & Rubber Co.*, 513 F.2d 851, 860, n. 7 (8th Cir. 1975), *cert. denied* (applying Missouri law); *Ford Motor Co. v. Thomas*, *supra* note 2; *Hill v. Husky Briquetting, Inc.*, *supra* note 2; *Witt v. Chrysler Corp.*, 15 Mich. App. 576, 167 N.W.2d 100 (1969).

40. *Supra* note 27. There, plaintiff alleged that her injuries were enhanced when her chin was driven into sharp prongs that were designed to hold the horn cap on the steering wheel of her automobile. The cap had been knocked off during the accident. The defendant argued that, since this method of attaching the horn cap was common in the industry, there should be no liability, even though an alternate safer design could have been used at no extra cost. The alternative design was a simple one - the horn cap could have been attached with screws to prevent it from coming off in an accident. Under a statutory state of the art defense, the manufacturer would incur no liability even though it was clear that it was the manufacturer who could have best avoided the unnecessary risk.

41. *Supra* note 4. There, a California appeals court mentioned that the defendant manufacturer had advanced a "state of the art" argument which would have insulated it from liability "regardless of how badly designed" its product may have been. 90 Cal. Rptr. at 328. Under a statutory state of the art defense, no liability would attach, even if the product was clearly dangerous and even though the danger could have been eliminated.

42. *See*, *e.g.*, Freedman, *supra* note 28, at 11.

43. *See*, *e.g.*, *do Canto v. Ametek, Inc.*, *supra* note 29, 328 N.E.2d at 876, n. 3. In *Ault v. International Harvester Co.*, *supra* note 29, the Supreme Court of California stated:

> The contemporary corporate mass producer of goods, the normal products liability defendant, manufactures tens of thousands of units of goods; it is manifestly unrealistic to suggest that such a producer will forego making improvements in its product, and risk innumerable additional lawsuits and the attendant adverse effect upon its public image, simply because evidence of adoption of such improvement may be admitted in an action founded on strict liability for recovery on an injury that preceded the improvement.

528 P.2d at 1152. Another commentator has observed:

> A distributor of mass-produced goods may have thousands of goods on the market. If his products are defective, the distributor would probably face greater total liability by allowing such defective products to remain on the market or by continuing to put more defective products on the market than he would by being adjudged liable in one particular case where evidence of subsequent repairs was introduced. Also, concern on the part of the distributors for consumer protection is promoted by consumer organizations, federal agencies, and mass media exposure of product defects. To some extent, the economic self-interest of product distributors requires that they repair and improve defective products to avoid adverse publicity which might result from future litigation.

Note, "Products Liability and Evidence of Subsequent Repairs," 1972 Duke L.J. 837, 848-49 (footnotes omitted). *See also* Lambert, "Recent Developments in Tort Law - Two New England Cases Analyzed," 5 *The Advocate*, No. 3 at 20 (1974).

44. In the *Horn* case, *supra* note 27, for example, there would have been little consumer demand for utilizing screws to hold on the horn cap because consumers would normally not know of the danger in the product.

45. Prosser, *Handbook of the Law of Torts* § 33 at 167 (4th ed. 1971).

### (b) Compliance with Safety Standards

## COMPLIANCE WITH SAFETY STANDARDS

### I.

### Introduction

Although many legislative and administrative codes set safety standards for products to meet, the fact that a product meets those standards does not necessarily relieve its manufacturer from liability if an injury results from the use of its product. Under existing tort law, compliance with product safety standards is admissible in evidence to show the product's safe design or manufacture. However, compliance is not a conclusive defense for the manufacturer. One proposed remedy is to make the compliance defense a conclusive one.

Product standards in general (including safety standards) may be classified as either "descriptive" or "performance." Descriptive standards define materials or forms, whereas performance standards tell what a product should do, no matter how it is made.[1]

Safety standards may also be classified as mandatory or voluntary. Mandatory standards are established by government and have the force of law. Failure to comply with them usually gives rise to civil, or even criminal, penalties. Some mandatory standards are enacted as statutes, while others are administrative regulations promulgated pursuant to statute. Voluntary standards are those adopted by a particular industry, primarily to identify certain characteristics of a product so that purchasers can be assured of its quality. Voluntary safety standards, as the name suggests, do not require compliance.

The purpose of mandatory safety standards is to reduce or eliminate unreasonable dangers associated with the use of a product. There are several different perspectives on what constitutes an "unreasonable danger." Consumer advocates sometimes act as if their goal were to eliminate all product-related accidents, when, of course, this is impossible. Nor is it even desirable. From an economic point of view, the optimum level of safety exists when the total cost of accidents plus the cost of safety implementation is at a minimum. However, the economic model does not take into account irrational public opinion, which may find the economically optimum level of safety unacceptable. This is important because safety standards are set by government agencies which are sensitive to public pressure.

A well-drafted safety standard should reduce the likelihood of product-related injury to some degree. As between the government and the manufacturer, it is appropriate that compliance with the standard protect the latter from the statutory penalties. As between the manufacturer and the individual plaintiff in a particular case, however, it does not necessarily follow that the safety standard should be conclusive of the respective rights of the parties. The court's primary function is to adjudicate the specific controversy before it, and any effect which the decision might have on future product safety is merely incidental.[2] In contrast, the standard addresses product safety in general, but is not intended as a remedy for specific injuries.[3] Because of this functional gap, any attempt to link tort liability to the standard must be made cautiously.

Products liability may be predicated on proof that, irrespective of the manufacturer's conduct, the product was "defective." Courts have differed as to the definition of a "defect," but many have accepted the formula of the Restatement (Second) of Torts, which imposes liability for selling a product "in a defective condition unreasonably dangerous to the user or consumer."[4] It can be observed that this definition is congruent to the function of a safety standard—elimination of unreasonable dangers. Violation of, or compliance with, a mandatory safety standard is admissible in evidence in a product suit, and violation of the standard is frequently regarded as negligence per se.[5] *A fortiori*, violation of the standard gives rise to strict liability, since the standard is, in effect, a definition of what constitutes a defect. Compliance with the standard, however, is not a conclusive defense, but only evidence tending to prove the absence of negligence or defect.[6] The reason for this has been stated:

> Consumer product safety standards set a safety floor below which consumer products must not fall. If persons are injured by products which meet these mandatory standards, they nevertheless are entitled to their day

> in court to demonstrate that additional precautions were necessary in the exercise of due care.[7]

It is this proposition that is challenged by the proposal considered here.

## II.

## Assessment

In evaluating the proposal to make compliance with safety standards a conclusive defense, the threshold question is whether it would reduce the current high costs of product liability. A review of the case law demonstrates that compliance with a standard would very rarely be a complete defense, even if it were dispositive of certain key issues. However, the proposal may be expected to result in manufacturers' winning a few cases which they would otherwise have lost. It may also eliminate some costly litigation of those key issues, even in cases where the plaintiff ultimately prevailed on other grounds. The Insurance Contractor has cited wide agreement that a compliance with standards defense "would have a tremendous impact on both availability and premium."[8]

A second pragmatic consideration is whether it is realistic to suppose that mandatory safety standards will, in fact, be promulgated for any substantial number of products. At the federal level, for example, the Consumer Product Safety

Commission (CPSC) was created in 1972 specifically to develop such standards. Four years later, virtually no progress has been made at all.[9] This may just reflect poorly on the particular agency, but it also indicates what a complex, expensive, and time-consuming process the development of standards has become.[10] Moreover, even if mandatory standards are developed by government agencies, they may well turn out to be no more than a rubber-stamped version of existing, voluntary standards adopted by manufacturers within an industry.[11] If this happens, then the compliance defense will, in effect, permit each industry to set its own standards for liability, a result which is patently inequitable to the consumer.

One of the lessons of the case law is that compliance with a standard is rarely dispositive of more than one of several issues upon which liability may be predicated. Another lesson is that, no matter how carefully they are drafted, safety standards cannot comprehend every circumstance in which the product may be dangerous in normal use. Moreover, they become quickly obsolete. These inherent characteristics present a compelling argument against treating safety standards as anything more than a minimum or "floor," below which product-related dangers are intolerable.

## III.

## Models

Compliance with, or violation of, a safety standard is admissible evidence, if relevant, whether the standard is voluntary or mandatory.[12] In the case of a voluntary standard, neither compliance nor violation is conclusive of the defendant's liability.[13] Violation of a mandatory standard is tantamount to a finding of negligence or product defect.[14]

### A. Majority Rule.

The majority and, indeed, almost the universal position which courts have taken is that compliance with a mandatory safety standard is not a conclusive defense, but is evidence in the defendant's favor. The justification for the rule is that the standard is only a minimum and courts should be free to adopt a higher standard if warranted by the circumstances.[15]

In many of the cases in which a standard is relevant and applicable to the legal issue on which the question of liability turns, the courts are content simply to state the rule and apply it without any discussion of why it should govern the particular case. In Kemp v. Wisconsin Electric Power Co.,[16] for example, the defendant had complied with the applicable statutes and regulations regarding the maintenance of power lines and equipment, but the court merely stated that these were minimum standards, and that compliance would not prevent a finding of negligence if a reasonable man would have taken additional precautions.[17]

The issue of whether the defendant provided adequate warning of the dangerous qualities of his product arises frequently in this context. It is not always enough to provide the warning required by statute. In one of the Chloromycetin cases, Whitley v. Cubberly,[18] a child was treated for minor respiratory ailments by the defendant doctor, who prescribed Chloromycetin. Although the drug was administered according to the doctor's prescription, the child suffered ill effects and died. The child's parents sued the doctor for negligence and the drug manufacturer for inadequate testing and labeling of its product. The manufacturer moved for, and obtained, summary judgment on the ground that it had complied with federal requirements as to warnings. In reversing, the court of appeals held that a material issue of fact existed as to whether the defendant had so overpromoted the drug in a vigorous sales campaign as to induce the medical profession to fail adequately to heed the warnings.

Improper warning is also an issue in cases where the applicable safety standard does not have to do with required warnings, but with some other aspect of the product. For example, in Hageman v. Signal L. P. Gas, Inc.,[19] the defendant contended that, as a matter of law, it was not negligent, because it had complied with the Ohio statute specifying the amount of odorant to be applied to liquefied petroleum gas. The court, citing the Ohio rule that compliance does not preclude a jury finding of negligence, held that the case had been properly submitted to the jury on other issues, such as whether the defendant had failed to warn and instruct the purchaser of the gas properly, and whether the gas had been supplied in a defective tank. Thus, even where the efficacy of the safety standard is not questioned, compliance does not guarantee that the product was not defective in some other respect. Moreover, it may always be argued that there was an additional duty to warn the purchaser.

In other cases, the holding that compliance is not a conclusive defense seems to reflect the court's tacit conclusion that the safety standard itself was inadequate or deficient. Such a case was Berkebile v. Brantley Helicopter Corp.,[20] which arose from the crash of a helicopter piloted by the plaintiff's decedent. A seven-foot section of one of the rotor blades had broken off while the helicopter was in the air. The plaintiff sought recovery on a strict liability basis and argued that the helicopter was dangerously defective in its autorotational characteristics. FAA regulations stipulated, in effect, that the design of a helicopter be such that, in the event of engine failure, the pilot has a minimum of one second to put the helicopter into autorotation. The defendant's helicopter complied with this performance standard, and the lower court held compliance to be a defense, finding, as a matter of law, that the decedent's failure to push down the collective pitch stick in one second was "abnormal use." The court of appeals reversed and remanded for a new trial on the ground that a material issue of fact—whether there was a defective condition in that the design of the helicopter did not allow an average pilot enough time to go into autorotation —had been improperly taken from the jury. By implication, therefore, the court rejected the FAA safety standard and suggested that a jury might find that one second was not enough time for the pilot to react.

After a new trial and a second judgment for the manufacturer, the court of appeals again reversed and remanded,[21] on the ground that the jury had been improperly instructed as to the adequacy of the warnings provided by the manufacturer. The Pennsylvania Supreme Court affirmed,[22] holding that, although the FAA regulations did require an adequate warning, they did not describe what kind of warning would be adequate in these circumstances, so that the matter was properly to be resolved by the jury. In short, even after the substantive safety issue had been resolved in the manufacturer's favor—by a jury, not by operation of law—there remained the separate jury issue of proper warning.

Just as the court implicitly found the safety standard deficient in Berkebile, so have courts rather more explicitly criticized the safety standards embodied in the Federal Flammable Fabrics Act.[23] A great volume of litigation has arisen from accidents caused by clothing or blankets which caught fire too easily and, in these cases, compliance with the federal standards is routinely rejected as a conclusive defense.[24] In one such case, Raymond v. Riegel Textile Corp,[25] the court went beyond mere recital of the rule. The plaintiff there, a child, had been burned when her flannelette nightgown burst into flames within two seconds of contact with a hot grille on an electric range. The defendant-manufacturer argued that its compliance with the federal standards was dispositive of the case and that the federal district court, applying New Hampshire law, had erred in substituting its own higher standards. The first circuit rejected this argument,[26] and went on to point out two deficiencies in the federal standards for flammable fabrics: (1) mere lapse of time can cause safety standards to become outdated, as they fail to reflect advances in the state of the art; (2) the drafters of standards cannot possibly foresee all the circumstances and conditions which might render a product dangerous in normal use. With respect to the flammable fabrics standards, the court adduced persuasive evidence that the standards were indeed outdated.[27] In a larger sense, however, the two deficiencies noted by the court are inherent in all standards, which is a good explanation why courts reject the argument that compliance should be a conclusive defense, even as to the narrow issue specifically addressed by the standard.

B. Minority Rule.

The number of cases in which compliance has been accepted as a complete defense is exceedingly small, so that it is an overstatement to characterize this position as even a "minority rule." Of the few reported decisions expressing this rule, some have resulted in a judgment for the plaintiff anyway. One was expressly overruled by a later decision.

In the early case of Chapman v. Pfarr,[28] the plaintiff brought a negligence action to recover damages for personal injury to himself and for the death of his wife and three children, resulting from an explosion of kerosene purchased from the defendant storeowner. An applicable statute required that all illuminating oil sold in the state be inspected and tested by inspectors, in accordance with carefully specified procedures, to determine its flash point, and that all oils be rejected which emitted a combustible vapor at a certain temperature. The statute did not require the seller of the oil to make such a test himself. The oil from the barrel in question had been inspected and approved. The defendant subsequently received notice from a customer, however, that the oil produced a flash when lit, as if it contained gasoline. As a result, the defendant performed his own test by lighting matches over a saucer full of the oil. Because no flash or flame occurred, he concluded that the oil was safe. Two weeks later, the plaintiff purchased a gallon of the oil, which exploded when he tried to light a fire in his cooking stove. A subsequent thorough analysis of the oil revealed that it contained 21 per cent gasoline.

The lower court reached a judgment for the plaintiff, but the case was reversed and remanded by the Iowa Supreme Court because of an erroneous jury instruction. That court indicated that, if the defendant had not been put on notice by the other customer, he would have been entitled to rely on the inspector's stamp of approval on the barrel of oil.[29] In the light of that opinion—stating that compliance _was_ a conclusive defense, as far as it went—the plaintiff had to develop another theory of liability. The second trial resulted again in a verdict for the plaintiff, based on the defendant's negligence in failing to have the oil inspected by an expert after receiving notice of its dangerous character.[30]

The _Chapman_ case further illustrates the point that compliance with the standard is only a partial defense at best, since the defendant may have been negligent—or the product defective—in some other respect. One may wonder whether the Iowa Supreme Court would have accepted compliance as a conclusive defense if it had not been so obvious that the defendant was liable on other grounds. If so, the court's position may reflect the fact that the defendant was not the manufacturer or supplier of the product, but only a retailer who, in the absence of notice, had done everything possible to ensure the safety of the product.

Jones v. Hittle Service, Inc.[31] was a liquefied petroleum gas case very similar to the Hageman case.[32] The defendant there contended that it should not be liable, since it had complied with the statute specifying the amount of odorant to be applied to the gas. While not actually holding that compliance was a conclusive defense, the court indicated its receptiveness to the argument:

> Compliance is evidence of due care and that the conforming product is not defective, and may be conclusive in the absence of a showing of special circumstances. Certainly a manufacturer should be able to rely on such standards in the absence of actual or constructive notice that they are inadequate.[33]

There was no indication that the statutory standards for the amount of odorant were "inadequate," but the court reversed a summary judgment for the defendant and remanded for a new trial on the ground that the issue of the defendant's duty to warn about the odor of propane, which could easily be mistaken for some other odor, should have been submitted to the jury. Thus, it seems that, as in Berkebile[34] and Hageman,[35] the failure to warn is a catch-all argument, which remains available to the plaintiff, even where the defendant has complied with an adequate safety standard.

The failure to warn may be of no assistance to the plaintiff, however, where the warning, as well as the product itself has been approved by a governmental agency. Thus, in the recent Nebraska case of McDaniel v. McNeil Laboratories, Inc.,[36] a drug manufacturer was relieved from liability where the drug, and the warning accompanying it, had been approved by the Food and Drug Administration. In affirming a jury verdict for the manufacturer, the Supreme Court of Nebraska stated:

> While approval by the Food and Drug Administration is not necessarily conclusive, its determinations, based upon the opinions and judgment of its own experts, should not be subject to challenge in a product liability case simply because some other experts may differ in their opinions as to whether a particular drug is reasonably safe, unless there is some proof of fraud or nondisclosure of relevant information by the manufacturer at the time of obtaining or retaining such federal approval.[37]

The language that the product "should not be subject to challenge" absent special circumstances indicates that the Nebraska Court has come close to establishing compliance as a conclusive defense.[38]

Apparently, the only reported decision in which the court unequivocally held that compliance was a conclusive defense is Lewis v. Baker.[39] There, the plaintiff brought an action for damages resulting from the use of a prescription drug manufactured by the defendant. The warnings on the label of the drug, listing certain adverse effects which had been noted during testing, had been approved by the FDA. In affirming a verdict for the defendant, the Supreme Court of Oregon held:

> [U]pon such facts a drug, properly tested, labeled with appropriate warnings, approved by the Food and Drug Administration, and marketed properly under federal regulation, is, as a matter of law, a reasonably safe product.[40]

Lewis was overruled, however, in McEwen v. Ortho Pharmaceutical Corp.[41] In that case, the plaintiff, who had suffered blindness in one eye and injuries in the other after using an oral contraceptive manufactured by the defendant, brought a negligence action premised on the defendant's alleged failure to make timely and accurate warnings to the medical profession of dangers which the defendant knew, or had reason to know, were inherent in the use of the drug. The court held:

> Viewed in the context of the entire Lewis opinion, it is not clear that satisfaction of "appropriate warnings" was to be achieved by mere compliance with the demands of the FDA.
>
> * * *
>
> We hold that the warnings given by an ethical drug manufacturer may be found inadequate "[a]lthough all of the government regulations and requirements have been satisfactorily met in the production and marketing of [the drug], and in the changes made in the literature. . . ."

* * *

> Lewis v. Baker, . . . insofar as it conflicts with this principle, is expressly overruled.[42]

C. Compliance with Federal Safety Regulations Defense.

A different approach to the institution of a compliance with standards defense would be to make compliance a defense only where the applicable standard was promulgated on the federal level.

Although there are a number of federal statutes which enact or provide for the promulgation of product safety standards,[43] they have in common the fact that compliance with those standards is not, under existing law, a conclusive defense in a products liability action. The Consumer Products Safety Act (hereinafter CPSA) is a representative example of these statutes.

Among the purposes of the CPSA are "to protect the public against unreasonable risks of injury associated with consumer products" and "to develop uniform safety standards for consumer products. . . ."[44] A safety standard may consist of requirements as to the "performance, composition, contents, design, construction, finish, or packaging of a consumer product," or requirements as to "clear and adequate warnings or instructions."[45] It is unlawful to manufacture or sell any consumer product which does not conform with an applicable safety standard,[46] and a knowing violation subjects the offender to civil and criminal penalties.[47]

Section 2075 of the CPSA permits the federal government, the states, or political subdivisions of the states to establish or continue in effect a higher safety standard than the federal standard imposed under the CPSA.[48] Section 2074(a) provides:

> Compliance with consumer product safety rules . . . shall not relieve any person from liability at common law or under State statutory law to any other person.[49]

Thus, the federal compliance defense is expressly rejected; the only uniformity achieved by the statute is the "first-level" uniformity described above.

The legislative history of § 2074 indicates that Congress gave considerable thought to the matter before rejecting the federal compliance defense. The drafters of the CPSA relied extensively on the Final Report of the National Commission on Product Safety, which included a proposed consumer product safety act.[50] Section 29 of the proposed act contained several sections, two of which were incorporated into the CPSA as § 2074(b) and (c).[51] With respect to the evidentiary weight to be accorded compliance with the standards, however, section 29 provided:

> Evidence that an entire finished product complies with regulations or standards issued by the Commission *shall be inadmissible* in any private litigation except an action to recover treble damages pursuant to Section 30.[52]

In rejecting this subsection, Congress served notice that it did not intend to change the common law rule that evidence of compliance is admissible.[53] Nor does § 2074(a) accept the other extreme and make compliance a conclusive defense. As the report of the Senate Commerce Committee on the Senate bill (S. 3419) explained:

> This subsection reaffirms the fact that product safety standards promulgated in accordance with this bill are "minimum" standards. Therefore, in product liability litigation compliance with applicable Federal safety standards would not automatically create a defense for the manufacturer.[54]

If it were felt desirable to do so, § 2074(a) could be amended so as to create a federal compliance defense. This change would require appropriate amendment of § 2075 as well, to reflect the effective preemption of the field by the federal standards.

## IV.

## Economic Impact

The establishment and imposition of safety standards and regulation related to the manufacture of products usually have two primary objectives: to insure that accident prevention and avoidance measures are undertaken in all those instances when these are less costly, in terms of economic resources, than the accident costs resulting in the absence of such preventive and avoidance measures; and to insure that the economic losses attending the injuries caused by products may not be spread in what society regards as an inequitable manner. That is to say, a value judgment may be made that it is worth the resulting reduction in economic efficiency to spread the economic losses and costs of product-related accidents among a class of loss-bearers rather than placing the economic burden entirely on the accident victim.

In principle, a market approach to products liability, with or without the imposition of legal constraints by way of various and different liability assignment rules, can accomplish the above two described functions and objectives. The underlying rationale for government intervention in the market place through the imposition of safety rules, standards and regulations related to product safety is that the market does not produce sufficiently safe products. For some reason, the market does not achieve an economically efficient level of safety; it somehow stops short of preventing and avoiding accidents, the costs of which exceed the resources which would be required to prevent and avoid these accidents. Stated otherwise, the market system produces less safety than consumers and workers, in the case of industrial goods, are willing to pay for.

The theoretical reasons suggested by those who claim the above situation to be the case essentially focus on two elements. It is argued that the high cost of information about product safety and hazards makes transactions costs so high as to produce too little safety and too many accidents. Secondly, it is argued that the uncertainty surrounding the safety or danger of a product is such that consumers and workers are not able to accurately estimate and assess potential hazards, accidents and expected accident costs.

The arguments, both for and against government intervention in the nature of safety regulations and standards, are numerous. However, none of the arguments in support of governmental intervention, which implies that too little safety is presently being produced in the economy due to the shortcomings of the market system, are based on any empirical evidence. Thus, there is no way of really knowing whether the imposition of product safety standards would be, or is, economically efficient.

If there is, in fact, too little safety, product safety standards would be helpful in terms of economic efficiency. If the market-producted level of safety, in the absence of government intervention, is in fact close to the optimal level, then safety regulations and standards requiring accident prevention and avoidance in excess of that presently engaged in by manufacturers would lead to economic inefficiencies.

Accordingly, the economic and resource allocative implications of the establishment of a defense based on a manufacturer's compliance with product safety regulations and standards really revolves around whether the regulations and standards are themselves economically justified. If they are, then the establishment of a safety standard compliance defense is economically appropriate. If they are not, and the standards lead to an economically inefficient level of safety, the establishment of a defense related to the compliance with such standards would produce inefficient resource allocations. It has been suggested that "[g]overnment incentives are likely to result in an overinvestment in accident prevention."[55]

## NOTES

1. For example, safety standards for children's nightgowns might require that they be made of certain non-flammable materials (descriptive) or that they be able to resist an open flame for five seconds (performance). National Commission on Product Safety, Final Report 47-48 (1970).

2. It has been observed that "[d]espite its humanitarian adaptations to meet the challenge of product-caused injury, the common law puts no reliable restraint upon product hazards." Id. at 3.

3. The exception is a statute which creates a civil cause of action for persons injured as a result of a violation of the safety standards. However, such statutes are rare. See infra note 26.

4. Restatement (Second) of Torts § 402A(1).

5. See, e.g., Restatement (Second) of Torts § 288B(1):

   > The unexcused violation of a legislative enactment or an administrative regulation which is adopted by the court as defining the standard of conduct of a reasonable man, is negligence in itself.

6. See, e.g., Restatement (Second) of Torts § 288C:

   > Compliance with a legislative enactment or an administrative regulation does not prevent a finding of negligence where a reasonable man would take additional precautions.

   By the same token, compliance with the standard does not prove that the product was not defective in some other respect.

7. Brodsky & Cohen, "'Uncle Sam,' The Product Safety Man: Consumer Product Safety Standards in the Marketplace and in the Courts," 2 Hofstra L. Rev. 619, 648-49 (1974). Cf. Prosser, Torts § 36 at 203-04 (4th ed. 1971). Again, the same reasoning applies to strict liability.

8. Insurance Study; ITFPL-77/03 at 4-91

9. See, e.g., Jackson, "The Relaxed Regulator," 12 Trial 12 (May 1976).

10. On January 30, 1976, in testimony before the Subcommittee on Oversight and Investigation of the House Commerce Committee, CPSC Commissioner R. David Pittle pointed out that Consumers Union had received over $150,000 from the CPSC to develop a draft standard for lawn mowers. After discovering that its costs far exceeded these funds, Consumers Union had sought additional reimbursement in the amount of $84,000.

    All concur that the establishment of standards is an inordinately expensive process. In a memorandum dated November 1, 1976 for Richard A. Johnson, Senior Policy Analyst for the Office of Policy Development and Coordination of the United States Department of Commerce, Howard I. Forman, Deputy Assistant Secretary for Product Standards, stated:

    > In its prepared statement on S.3555 (Voluntary Standards and Certification Act of 1976) the American National Standards Institute (ANSI) stated that the voluntary standards system that is coordinated by ANSI "accounts for more than 90 percent of non-government standards development in the nation. The costs are astronomical, exceeding $250,000,000 each year according to the results of a survey underway by the Institute." According to an in-house estimate by the National Bureau of Standards, the total cost of the U.S. standards effort, including government and non-government activities, may be as high as $750 million annually.

11. The *Consumer Products Safety Act* contemplates that the CPSC will solicit the help of both industry and consumer groups in developing standards. *See Brodsky and Cohen*, *supra* note 7, at 635-40. In practice, however, the participation of consumer groups in this process has been deterred by the cost of developing draft standards, a fact which has caused Commissioner Pittle to declare that "it is highly unlikely that we shall see non-industry offerors in the future." *Supra* note 10.

12. For the admissibility of voluntary safety standards *see*, e.g., *Peters v. American Ladder Corp.*, ___ F.2d ___ (1st Cir., No. 75-1400, Feb. 23, 1976) (defendant permitted to establish compliance with standards developed by American National Safety Institute); *McComish v. DeSoi*, 42 N.J. 274, 200 A.2d 116, 120-23 (1964) (plaintiff permitted to introduce safety manuals in evidence).

13. The proposition that compliance with voluntary (*i.e.*, industry-adopted) standards is not a conclusive defense harks back to the famous opinion of Judge Learned Hand in *The T. J. Hooper*, 60 F.2d 737 (2d Cir. 1932). Violation of voluntary standards is almost never held to be negligence *per se*. *But see Rhode Island Hospital Trust National Bank v. Swartz, Bresenoff, Yavner & Jacobs*, 455 F.2d 847 (4th Cir. 1972).

14. *Restatement (Second) of Torts* § 288B(1), *supra* note 5. Of course, the violation of the mandatory standard must be the proximate cause of the injury in order for the defendant to be found liable on either a negligence or a strict liability theory. Also, courts have traditionally distinguished between state and federal statutes on the one hand, and administrative regulations and municipal ordinances on the other. Violations of the latter are sometimes, but not always, treated as negligence *per se*. Thus, it may be important whether a safety standard were enacted as a statute or promulgated as a regulation. For the sake of simplicity, however, it will be assumed here that all mandatory safety standards have the force of statutes.

15. *Cf*. Prosser, *Torts* § 36 at 203-04 (4th ed. 1971):

> Where there is a normal situation, clearly identical with that contemplated by the statute or regulation, and no special circumstances or dangers are involved, it may be found, and can be ruled as a matter of law, that the actor has done his full duty by complying with the statute, and nothing more is required....But if there are unusual circumstances, or increased danger beyond the minimum which the statute was designed to meet, it may be found that there is negligence in not doing more.

16. 44 Wis. 2d 571, 172 N.W.2d 161 (1970).

17. To the same effect are *Sherman v. M. Lowenstein & Sons, Inc.*, 28 App. Div. 2d 922, 282 N.Y.S.2d 142 (1967) (compliance with flammability testing method required by the Federal Flammable Fabrics Act); and *Blasing v. P.R.L. Hardenbergh Co.*, 226 N.W.2d 110 (Minn. 1975) (compliance with federal regulations and local ordinances as to the type of warning required on containers of furniture stripper, a flammable liquid).

18. 210 S.E.2d 289 (N.C. App. 1974). *See also Stevens v. Parke, Davis & Co.*, 507 P.2d 653 (Cal. 1973); *Incollingo v. Ewing*, 282 A.2d 206 (Pa. 1971); Note, "FDA-Required Warning Nullified by Manufacturer's Overpromotion of Drug," 43 *U. Cin. L. Rev*. 224 (1974).

19. 486 F.2d 479 (6th Cir. 1973).

20. 219 Pa. Super. 479, 281 A.2d 707 (1971).

21. *Berkebile v. Brantley Helicopter Corp.*, 225 Pa. Super. 349, 311 A.2d 140 (1973).

22. Berkebile v. Brantley Helicopter Corp., ___ Pa. ___, 337 A.2d 893 (1975).

23. 15 U.S.C.A. §§ 1191 et seq. (1953).

24. See, e.g., Hinkley v. Purified Downs Products Corp., ___ F. Supp. ___ (D. Mass. 1973) (child's comforter); LaGorga v. The Kroger Co., 275 F. Supp. 373 (W.D. Pa. 1967); Murphy v. Mooresville Mills, N.J., Ocean City Ct., No. L-13727-71 (Sept. 1973) (child's dress); Sherman v. M. Lowenstein & Sons, Inc., supra note 17.

25. 484 F.2d 1025 (1st Cir. 1973) (applying N.H. law).

26. The court pointed out that, since the Flammable Fabrics Act did not provide private civil remedies, it was not intended to preempt the field or to preclude states from adopting higher standards, either judicially or by statute.

27. The court observed that the purpose of Congress in enacting the 1947 amendments to the Act had been "to facilitate an improvement of the applicable standards which were then thoughtto be deficient, as witnessed by fourteen years of unchanged standards." 484 F.2d at 1027. For additional criticism of the flammable fabrics standards, see Swartz, "Products Liability — The Torch Cases," 76 Case and Comment 5 (1971).

28. 145 Iowa 196, 123 N.W. 992 (1909).

29. The court explained its position:

> [Defendant] had the right to rely on the inspector's brand, indicating that the oil in the barrel was of the standard required by statute, until he had information such as would indicate to a reasonably prudent man dealing in oil that it did not correspond to the standard indicated by such brand, and the real question for determination is as to the duty of [the defendant] after receiving such information.
>
> ***
>
> [W]e think the plain purpose of the statute, reading all of its provisions together, is to relieve the seller from responsibility for the sale of illuminating oil properly branded, so as to indicate its compliance with the statutory standard, unless there is negligence.

Id. 123 N.W. at 994-95.

30. The judgment was affirmed in Chapman v. Pfarr, 153 Iowa 20, 132 N.W. 957 (1911). The defendant sought indemnification from the supplier of the oil, but ultimately failed to sustain the burden of proving that the oil was in a defective condition when delivered. Pfarr v. Standard Oil, 176 Iowa 577, 157 N.W. 132 (1916).

31. 219 Kan. 627, 549 P.2d 1383 (1976).

32. Supra note 19.

33. 549 P.2d at 1390 (emphasis added). Cf. Prosser, supra note 15.

34. See text accompanying notes 21-22, supra.

35. Supra note 19.

36. 241 N.W.2d 822 (Neb. 1976).

37. Id. at 828 (emphasis added).

38. The Defense Research Institute, Inc., has proposed two alternate statutes regarding the compliance problem, the first of which would establish a conclusive defense where the standards were mandatory, and a rebuttable presumption of non-defectiveness where the standards were not mandatory:

> (1) In any action for personal injury, wrongful death or property damage, evidence that a product complies with applicable federal or state standards or regulations with respect to the design, manufacturing or testing of a product shall create a rebuttable presumption that the product was not defective.
>
> (2) In any such action, evidence that applicable federal or state standards or specifications are mandatory requirements, from which a manufacturer cannot deviate, will preclude liability in any respect in which the product complies.

The Defense Research Institute, Inc., Products Liability Position Paper, No. 9, at 31 (1976). The alternate statute would provide:

> In any action for personal injury, wrongful death or property damage, no manufacturer or seller of a product shall be liable for a product where federal or state statutes or administrative regulations exist prescribing standards for the design, manufacturing or testing of the product, in any respect in which the product complies with such standards.

Id. The American Insurance Association also favors use of a rebuttable presumption approach if a conclusive compliance with standards defense is not feasible. See letter dated October 13, 1976 from Dennis R. Connolly, Associate Counsel of the American Insurance Association, to Professor Victor E. Schwartz, Project Director of the Interagency Task Force on Product Liability.

39. 243 Ore. 293, 413 P.2d 400 (1966).

40. 413 P.2d at 404. The court hedged its position slightly, indicating that judicial inquiry should not end at this point, since an injured party could still prevail by proving an impurity in the drug, an inadequacy in labeling, or the manufacturer's fraud in obtaining federal approval.

41. 528 P.2d 522 (Ore. 1974).

42. Id. at 534.

43. See, e.g., the Federal Hazardous Substances Labeling Act, 15 U.S.C.A. § 1261 et seq.; the Flammable Fabrics Act, 15 U.S.C.A. § 1191 et seq.; the Poison Prevention Packaging Act, 15 U.S.C.A. § 1471 et seq.

44. 15 U.S.C.A. § 2051(b). "Consumer products" are defined so as to exclude food, drugs, cosmetics, tobacco, motor vehicles, aircraft, boats, and economic poisons, among other things. 15 U.S.C.A. § 2052.

45. 15 U.S.C.A. § 2056.

46. 15 U.S.C.A. § 2068.

47. 15 U.S.C.A. §§ 2069, 2070. The civil penalty may not exceed $2000 for each violation nor a total of $500,000 for a related series of violations. The criminal penalty is a fine of up to $50,000 or imprisonment for not more than one year, or both. Moreover, a "knowing violation" of a safety standard gives rise to a specially-created cause of action "in addition to and not in lieu of any other remedies provided by common law or under Federal or State law." 15 U.S.C.A. § 2072. However, the typical products liability action would not fall in this category.

48. As originally enacted, § 2075 imposed no restrictions on the establishment of higher standards than the CPSA standards. Section 2075 has recently been amended, however, to require that the Consumer Products Safety Commission approve any such higher standard. The commission must find, as a prerequisite to approval, that the higher standard provides a "significantly higher degree of protection" from the risk of injury than does the federal standard, and that the former would not unduly burden interstate commerce. P.L. 94-284, May 11, 1976, Sec. 17(d).

49. "Consumer product safety rules" is defined to include consumer product safety standards. 15 U.S.C.A. § 2052(a)(2).

50. National Commission of Product Safety, Final Report, Proposed Consumer Product Safety Act (1970). *See* Brodsky and Cohen, "'Uncle Sam,' the Product Safety Man: Consumer Product Safety Standards in the Marketplace and in the Courts," 2 *Hofstra L. Rev.* 619, 649-50 (1974).

51. National Commission on Product Safety, *supra* note 50, at 9.

52. *Id.* (emphasis added).

53. *But see* testimony of Consumer Product Safety Commission Chairman Richard O. Simpson, who recently suggested that § 2074(a) be repealed because it "foreclosed [affected companies] from citing...compliance in the course of product liability actions," before the Subcommittee on Oversight and Investigation of the House Commerce Committee, January 30, 1976; *see* Jackson, "The Relaxed Regulator," *Trial* (May, 1976) 12, 13. Professor Jackson argues that Chairman Simpson was mistaken in his belief that § 2074(a) makes evidence of compliance inadmissible.

54. Senate Report No. 92-749, 92d Cong., 2d Sess., at 40. The House Commerce Committee Report (No. 92-1153, 92d Cong., 2d Sess.) described the section without elaborating on this aspect. No mention of the section was made in the Conference Report (No. 92-1593, 92d Cong., 2d Sess.) or in the Senate or House debates.

    In a letter dated October 14, 1976, to Victor E. Schwartz, head of the Interagency Product Liability Task Force, Michael A. Brown, General Counsel of the Consumer Product Safety Commission concurred with this view:

    > We agree with the position generally taken by the judiciary that federal safety standards represent a minimum level.

55. Memorandum to the Working Task Force on Product Liabilities from Barry Chiswick and Timothy Quinn, Staff Economists on the Council of Economic Advisers, October 26, 1976, at 5. *See* Selected Working Papers of the Task Force ITFPL-77/05.

### (c) Regulation of Expert Testimony

# REGULATION OF EXPERT TESTIMONY

## I.

## Introduction

Expert witnesses, who are indispensable in most products liability cases, have been the subject of allegations of abuse, incompetence and waste. A major complaint is that partisan selection of expert witnesses leads to non-objective expert testimony.[1] The payment of the expert's fee by one party to an action will naturally induce the expert witness to stress viewpoints favorable to his sponsor's position, and possibly even to shade an objective view. This tendency is compounded by the requirement in many jurisdictions that an expert witness give his opinion only in response to a hypothetical question.[2] The hypothetical requisite permits counsel to extract an opinion from the expert based on a hypothetical situation which often distorts reality by assuming certain conditions which are not necessarily existent and by omitting important compromising factors. To the extent that counsel's hypothetical situation does not elucidate the conditions which exist, and to the extent that the witness does not request and the judge does not grant the opportunity to express essential qualifications to the presumed hypothetical situation, the expert's opinion appears to the jury to be absolute. An unqualified opinion may represent a distortion in those products cases, where either scientific opinion is not unanimous or where judgement is required on the social and economic balancing of risks and utility. Cross-examination has been relied upon as the panacea for refuting nonobjective testimony presented by partisan expert witnesses.[3]

Partisan selection of expert witnesses has also been blamed for the extreme views which are often presented by the experts at trial.[4] Counsel for the plaintiff will often "shop around" until he discovers an expert witness who will fully support his client's position, regardless of whether the witness represents a discredited or minority viewpoint among experts in that field, and regardless of the witness's integrity. The defendant, in turn, parades his stable of hired experts, some of whom may have designed the alleged defective product in a products case.[5] This polarization of expert opinion can leave the jury with the dilemma of choosing one extreme to the exclusion of another or, in the alternative, of compromising between the extremes. Often the battle of expert witnesses negates the total effect of all of the expert testimony, leaving the jury to concoct its own theory of what happened and who should bear the loss.[6] This polarization is exacerbated when experts are permitted to state their conclusions without relating the underlying reasoning which led them to such conclusions.[7]

Judicial review of the qualifications of expert witnesses has also been said to be ineffective.[8] Judges are not always competent to evaluate the technical competence of expert witnesses.[9] Consequently, judicial review is limited to consideration of "paper" credentials.[10] Diploma and publication evaluation ignores the direct applicability of the expert's testimony on the particular issues of the case. Unless the expert has appropriately acquainted himself with the facts of the case and educated himself on the nuances of how general technical principles have been applied and operate in the particular process in dispute, then the witness is unqualified to address the particular issue.[11] The witness may not be fully aware that legal causation in products liability requires an analysis of the costs and benefits of feasible improvements. An understanding of the legal consequences of his conclusion will encourage the expert to reveal reservations to his opinion on cross-examination.[12] Qualification of an expert witness should include an evaluation of the appropriateness of his testimony on the particular issues and an assessment of his comprehension of the legal incorporation of technical information, in addition to a review of paper credentials.

## II.

## Assessment

The trial court should have the discretion to appoint impartial experts in products liability cases. In formulating such a system, many techniques from the Federal Rules of Evidence could be adopted. While the success of the system may be limited in reducing polarization of partisan expert opinions and while the system may not materially increase pre-trial settlements, the availability of an objective expert will assure the jury of guidance in resolving conflicts in expert testimony as to the technical issues in products cases.

## III.

## Models

One possible corrective scheme is to limit expert witnesses to those appointed by the court or a neutral body. Neither party to the suit could summon its own expert to testify at trial. The court would appoint expert witnesses who would investigate the facts, meet with both parties, conduct necessary tests, and report findings to the court. If the report does not induce settlement, then the court expert would be available for testimony and cross-examination by both parties. Of course, someone must pay for the court expert. As the expert representative for both parties, the fee should be assessed equally between the parties.

An alternative reform is embodied in the recently-enacted Federal Rules of Evidence.[13] Under this plan, the court, in its discretion, can appoint an impartial expert witness.[14] The court can appoint an expert agreed to by both parties or one of its own choosing.[15] The expert can be called as a witness at trial by either party or by the court.[16] Also, the trial judge has the discretion to reveal the identity of the nonpartisan-selected expert to the jury.[17] The Federal Rules do not comment on why this power is accorded to the judge, but such discretion fulfills two purposes. Revelation of identity is to be generally avoided for fear of the jury's over-crediting the court expert's opinion to the exclusion of the opinions of the other experts.[18] However, should an expert or both experts persist in extreme divergences from an objective view of the facts, the revelation that one witness was non-partisan should aid the jury in reaching an objective conclusion:

> The ever-present possibility that the judge may appoint an expert in a given case [and reveal his identity to the jury] must inevitably exert a sobering effect on the expert witness of a party and upon the person utilizing his services.[19]

The court has the discretion to demand revelation by the expert of the bases of his opinions, since the requirement of an adequate foundation before a hypothetical question can be asked is not mandatory under the Federal Rules of Evidence.[20] By de-emphasizing the practice of requiring expert opinions to be given only in response to hypotheticals, cross-examination and pre-trial discovery become critical tools for the adversary party to learn the bases of an expert's testimony.[21] The Federal Rules also permit learned treatises to be utilized substantively, rather than as only tools of impeachment.[22] The court initially assesses the costs of the impartial expert witness against both parties, and subsequently, against the losing party.[23]

A supplemental reform, which could be added to either of the foregoing systems, would be more sophisticated pre-trial screening of the qualifications of expert witnesses. The qualifying process would entail more than a review of the expert's paper qualifications and a cursory examination of the expert's acquaintance with the facts of the case. Pre-trial screening would consider the appropriateness of the expert's background and of his proposed testimony in relation to the issues in dispute.[24] Professor Weinstein and three colleagues have proposed a three-step analysis to determine whether an expert's experience would materially aid the trier of fact in deciding the technical issues of a products liability claim:

> Initially, the court must be satisfied that the pervasive discipline, as identified by a given issue, is within the scope of the witness's background skills. Then the prospective witness must persuade the court that the self-education that he has undertaken involves a legitimate application of his basic skills. Finally, the witness must demonstrate that he has been sufficiently thorough in acquiring this self-education to achieve a level of qualification consistent with the technical issues that he will address.[25]

Additionally, the expert witness must satisfy the court that he understands the legal significance of the technical information involved in the case. Liability in products cases is not determined solely by whether a technologically feasible alteration in a product might have prevented injury. Rather, a balancing approach is employed, which demands that the expert, to be an appropriate witness, not only trace the injury to a design or production infirmity, but also consider the risk in not incorporating certain safety features against the cost of improvements:[26]

> Beyond the traditional function of distilling technological data, the technical expert in products liability actions bears an expanded responsibility arising from the necessity of addressing questions of major societal significance.[27]

A fourth corrective measure could entail licensing of all products liability expert witnesses. The licensing would be conducted by joint committees of professional societies, representing engineers, and product safety consultants. This approach may not be appropriate in the products area.[28]

## IV.

## The Proposed Remedy

An exclusively court-appointed expert witness system, while it would relieve court congestion and mitigate partisan influences,[29] has serious drawbacks in the products liability area. Cost advantages could accrue from pre-trial settlements which would ensue after the court expert had revealed his findings. Even in those cases that went to trial, where the expert opinion on liability or damages was not dispositive, the elimination of the time-consuming battle of expert witnesses would produce substantial savings in court time and litigation expenses. However, this system entails the loss of the partisan watchdog.[30] Without adversary expert witnesses to develop the strengths and benefits of both sides of the controversy, an effective check on the impartial functioning of the court-appointed expert witness is lost.

The plan of exclusive court appointment of experts could also conflict with the constitutional guarantees of a jury trial and due process of law. The courts have permitted case-by-case limitations to apply to the number of expert witnesses which a party could call on any issue. These limitations have been upheld so long as the court was acting within its sound discretion and was not arbitrarily depriving the parties of the opportunity to present evidence material to the issues in dispute.[31] Restrictions on the number of experts testifying on collateral matters have received greater approval than limitations with regard to experts testifying on material issues.[32] While no decisions have dealt with the validity of the exclusive plan, whereby the court precludes the parties from summoning their own expert witnesses and receives only the testimony of a court-appointed expert witness, analogous situations were presented in In re Porter's Estate,[33] and Perry v. United States.[34]

The genuineness of an incompetent's signature on certain receipts was the major issue in Porter's Estate. After professing that the trial court's discretion in limiting the number of expert witnesses must not be exercised arbitrarily nor exercised unreasonably so as to deprive the parties of material rights, an Illinois appellate court refused to permit the defendant to call his own expert handwriting witness after the handwriting expert, agreed upon by both parties, had testified unfavorably to the defendant. In Perry v. United States, then Circuit Judge Warren Burger held that a criminal defendant did not have an "absolute right to a mental examination by an expert of the accused's choice."[35] These cases represent instances where the trial court denied a party the right to his own expert witness, but special factual situations were involved in both cases.

A different approach is reflected in the old case of Traders Insurance Co. v. Catlin.[36] There, the defendant procured expert testimony from ten witnesses on the issue in question. Defendant then attempted to introduce the depositions of 14 additional experts who had given their opinions and been subjected to cross-examination on the material issue of the case. In concluding that the trial court had erred in rejecting the 14 depositions, the court stated:

> A party has a right to call as many witnesses as he sees fit and can produce in support of his contention, but that in the case of expert witnesses called upon a matter collateral to the main issue, and of impeaching witnesses, and in other like cases, the right of the

> trial court is recognized to limit the number of witnesses to be produced, such right to be exercised within the bounds of a reasonable discretion; and that in determining whether that right has been properly exercised much stress is laid upon the inquiry whether the evidence already presented by such party has been sufficient to establish his side of the issue, and that it is not proper to reject further evidence where the judicial mind remains unconvinced by that already produced.[37]

This approach, however, may well be outdated.

Where statutes and court rules have implemented procedures which allow the trial judge to appoint an impartial expert witness to investigate the facts and report to the court as a nonpartisan witness, the right of the parties to call their own expert witnesses has been preserved.[38] Similarly, in upholding the trial court's power to appoint an impartial master in the absence of a general federal rule or statute, Justice Brandeis once referred to the additional right of the parties to call their own experts to testify.[39] While neither the case law nor the codes mandate the affording of the right to call partisan expert witnesses, the right has been preserved in the impartial expert witness schemes which have been established to date.

Court appointments of impartial expert witnesses to aid the fact finder in resolving technical issues have been generally upheld.[40] The cases which have struck down mandatory medical malpractice review schemes[41] do not pose a threat to court appointment of impartial expert witnesses. The recent cases which have prohibited the admissibility of the findings or recommendations of review panels on grounds that they infringed the constitutional guarantee of a full and fair jury trial have so ruled because the findings usurped the jury's right to decide the ultimate issue in the case. While court-appointed witnesses would be allowed to give their opinions on ultimate facts, they could not express themselves directly on the ultimate issue of liability.

The primary benefit which would be derived from a discretionary court-appointed expert plan would be an increase in the objectivity of expert testimony. Thus, the jury would not need to face the dilemma of resolving extreme positions. An additional benefit would be an increased number of settlements due to an objective expert consensus on the technical issues. Federal Rule of Evidence 706 aims at increasing the objectivity of expert witnesses, not only by appointing a neutral mediator but also by granting the trial court the power of appointment if it feels the partisan experts are not being candid with the court.[42] The system would work most efficiently if this power deterred the expense of an appointment of an additional expert witness. Measurement of the success of a court-appointed expert witness system in promoting greater objectivity and encouraging early settlement of claims is nearly impossible. The power of the trial court to appoint an impartial expert witness has been invoked infrequently.[43] The only court appointment of impartial experts which has occurred with any degree of regularity has been within several urban court systems, and only in regard to medical testimony in personal injury cases.[44] Students of these impartial medical expert systems have universally agreed that the objectivity of expert testimony was markedly increased when the court appointed impartial medical experts.[45] Reactions have been mixed, however, as to the effect of the system on settlement rates and overall cost effectiveness.[46] Although some courts operating under an impartial medical expert plan enthusiastically endorsed the procedure, there was a noted absence of expansion of the plans beyond initial experimental urban locations.

While experience under impartial medical expert plans portends a significant gain in objectivity and the possibility of increased settlements, there is some question whether similar gains would be made in the products liability field. Success in reconciling the tendency among medical experts to advocate extreme positions is due, in some measure, to the reputation and status of doctors within their medical associations. To the extent that products liability experts are not confined within select professional groups and societies, peer pressure to abandon extreme positions will be less influential. However, the threat of an interceding impartial expert who has the potential to contradict questionable testimony by partisan experts may exert pressure on the experts to express more objective opinions.

## IV.

## Economic Analysts

It is difficult to estimate, or even engage in speculation, as to what the economic impact of either eliminating plaintiff's and defendant's expert witness testimony, or of requiring a third, court-appointed expert witness, would be. Whatever the effect, it would be related primarily to the compensation of the accident victim and the award and estimation of damages. In any case, the general economic effects would be similar to those described and analyzed in connection with the mandatory arbitration proposal.

## NOTES

1. One authority has noted:

> The bias of the expert called by the parties is altogether too obvious in many circumstances, such as the situation where the defendant is a manufacturer on trial for alleged defective design and his expert witness is the engineer within whose job responsibility falls the formulation of the original specifications in question and who also happens to be currently in the defendant's employ in a like capacity. Nor is the plaintiff's expert free from the taint of bias, for plaintiff's attorney may have indulged in extensive expert-shopping to get a witness willing to lend scientific credence to a theory of liability which is at best suspect if examined with scientific objectivity.

Mitchell, "The Proposed Federal Rules of Evidence: How They Affect Product Liability Practice," 12 Duquesne L. Rev. 551, 576-77 (1974).

Additionally, there is the expert witness for hire, who is willing, for a fee, to alter his credentials and testimony to suit a particular case. Donaher et al., "Technological Expert in Products Liability Litigation," 52 Tex. L. Rev. 1303, 1312 (1974). See also Van Dusen, "The Impartial Medical Expert System: The Judicial Point of View," 34 Temple L. Q. 386, 386-88 (1961); Peck, "Impartial Medical Testimony: A Way to Better and Quicker Justice," 22 F.R.D. 21, 22 (1958); 6 Wigmore, Evidence § 1692 (3d ed. 1940); Wick and Kightlinger, "Impartial Medical Testimony Under the Federal Civil Rules: A Tale of Three Doctors," 34 Ins. Counsel J. 115, 121 (1967); Cleary, McCormick on Evidence § 17, at 37-41 (2d ed. 1972).

2. Korn, "Law, Fact, and Science in the Courts," 66 Colum. L. Rev. 1080, 1085-86 (1966). See Rabata v. Dohner, 45 Wis. 2d 111, 172 N.W.2d 409, 415-20 (1969).

3. See Mitchell, supra note 1, at 573; Travis, "Impartial Expert Testimony Under the Federal Rules of Evidence: A French Perspective," 8 International Lawyer 492, 520 (1974); Comment, "Learned Treatises as Direct Evidence: The Alabama Experience," 1967 Duke L.J. 1169, 1189-90 (1967); F.R. Ev. 705, Notes of Advisory Committee on Proposed Rules, 28 U.S.C.A. at 516. Cf. Weinstein, "Products Liability: An Interaction of Law and Technology," 12 Duquesne L. Rev. 425, 438 (1974).

4. See Peck, supra note 1, at 22; Van Dusen, supra note 1, at 394; Frost, "Impartial Medical Testimony," Ins. L. J. (Jan. 1960), 17, 19.

5. Mitchell, supra note 1, at 576-77.

6. Weinstein, supra note 3, at 456; Van Dusen, supra note 1, at 388.

7. Weinstein, supra note 3, at 438-41, 455-56.

8. Id. at 441; Donaher, supra note 1; Polsky, "Expert Testimony: Problems in Jurisprudence," 34 Temple L. Q. 357, 362 (1961); Korn, supra note 2, at 1084-85.

9. Korn, supra note 2, at 1085; Polsky, supra note 8, at 362-63.

10. Donaher, supra note 1, at 1326; Weinstein, supra note 3, at 459.

11. Donaher, supra note 1.

12. Weinstein, supra note 3, at 450-56; Sjogren, "Selection and Use of Technical Experts in Patent Litigation," 58 J. Patent Office Society 253, 253-54 (1976).

13. See F.R. Ev. 701-06 (1975).

14. F.R. Ev. 706(a) (1975). Numerous statutes and court rules provide for court appointment of expert witnesses, although the practice is sometimes limited to medical experts. See, e.g., Cal. Ev. Code § 730 (West 1975); S.D. Comp. Laws ch. 19 § 6 (1967) (impartial medical experts); Ill. Sup. Court Rule 215(d) (impartial medical experts); N.J. Court Rule 4:20-1 et seq. (1975) (impartial medical experts); New York Court Rules, New York and Bronx Counties, § 660.11(1) (McKinney 1973) (impartial medical experts); Federal District Court for the Eastern District of Pennsylvania, Local Rule 22 (impartial medical expert); Federal District Court for the Northern District of Illinois, Local Rule 20 (impartial medical experts). See also Wick and Kightlinger, supra note 1, at 117-18; Annot., "Trial Court's Appointment, in Civil Case, of Expert Witness," 95 A.L.R.2d 390, 392 (1964).

15. F.R. Ev. 706(a) (1975).

16. Id.

17. F.R. Ev. 706(c) (1975).

18. Mitchell, supra note 1, at 577; "French courts have accorded excessive credibility to the reports of court appointed experts." Travis, supra note 3, at 520. Wick and Kightlinger, supra note 1, at 139.

19. F.R. Ev. 706, Notes of Advisory Committee on Proposed Rules, 28 U.S.C.A. at 518.

20. F.R. Ev. 702, 705 (1975).

21. Hvass, "Evidence - Article VII: Opinion and Expert Testimony," 33 Fed. Bar J. 1, 78 (1974); Metzner, "Proposed Federal Rules of Evidence: Article VII: Opinions and Expert Testimony," 23 Federation Ins. Counsel Q. 83, 93 (1973).

22. F.R. Ev. 803(18) (1975). See Note, 27 S.C. L. Rev. 766 (1976).

23. F.R. Ev. 706(d) (1975).

24. Weinstein, supra note 3; Donaher, supra note 1; Ordover, "Proposals For a New York Code of Evidence - Expert Testimony: A Proposal for New York," 19 N.Y. L. F. 809, 817 (1974).

25. Weinstein, supra note 3, at 432 .

26. Donaher, supra note 1, at 1309-13.

27. Donaher, supra note 1, at 1303.

28. Licensing has been implemented for some medical expert witnesses, but it seems inappropriate for products liability expert witnesses. Unlike medical specialists, there is no precise matching of a technical expert's experience with the particular expertise necessary to analyze a products liability issue. Products liability issues are usually not confined within one area as are medical issues. Therefore, the products liability expert must self-educate himself for every issue. See Donaher, supra note 1, at 1313-25; Ordover, supra note 24, at 813-14.

29. Van Dusen, supra note 1, at 389 394; Frost, supra note 4, at 19; Wick and Kightlinger, supra note 1, at 121-22; Van Dusen, "A United States District Judge's View of the Impartial Medical Expert System," 32 F.R.D. 498, 508 (1963).

30. Travis, supra note 3, at 511. One example is illustrated by such cases as The T.J. Hooper, 60 F.2d 737 (2d Cir. 1932). When a new safeguard becomes available, it is often promoted by a minority, while the dominant view espouses the prevailing industry position. Expert witnesses may work primarily within an industry, and consequently would be prejudiced towards

the industry standard. Court selection of an expert representing the dominant viewpoint would result in a rubber stamp approval of the industry standard. Yet the jury might not be satisfied with the industry standard and might be receptive to the view requiring the new safety feature. Without a partisan expert to voice the technological feasibility and economic practicality of incorporating the new safety feature, juries may be impeded from promoting a more progressive standard over the lagging industry position.

31. See Annot., "Limiting Number of Noncharacter Witnesses in Civil Case," 5 A.L.R.3d 169, 181 (1966); F.R. Civ. P. 16 (the court may in its discretion direct the attorneys for the parties to appear before it for a conference to consider the limitation of the number of expert witnesses).

In Stager v. Florida East Coast R.R., 163 So. 2d 15 (Fla. App. 1964), the court upheld the action of the trial judge in limiting at a pre-trial conference the number of medical experts testifying as to plaintiff's injuries to two, where the testimony of a third expert would have been merely cumulative. See also Redondo Beach School District v. Flodine, 153 Cal. App. 2d 437, 314 P.2d 581 (1957), where the court stated:

> Appellant's contention that the court abused its discretion in limiting it to one expert witness is answered by § 1871, Code of Civil Procedure which provides in part: 'The court or judge may at any time before the trial or during the trial, limit the number of expert witnesses to be called by any party.'
>
> Appellant put on . . . the president of B & A Investment Co., Inc., as a witness and he appeared to be well informed upon real estate values in the area, and Martin, a qualified real estate appraiser. They each testified as to all of the factors of market value at great length. Appellant has pointed to nothing which could have been brought out by some other witness which was not purely cumulative. The court in its discretion may limit the number of witnesses who may be called upon to testify with reference to a single question, as here, and the court can refuse to receive evidence which is purely cumulative.

314 P.2d at 588.

32. See Traders Insurance Co. v. Catlin, 71 Ill. App. 569, 574-75 (1897); Annot., supra note 31, 5 A.L.R.3d at 178.

33. 43 Ill. App. 2d 416, 193 N.E.2d 617 (1963).

34. 347 F.2d 813 (D.C. Cir. 1964), cert. denied, 382 U.S. 959 (1965).

35. 347 F.2d at 816.

36. 71 Ill. App. 569 (1897).

37. 71 Ill. App. at 574.

38. See F.R. Ev. 706(d) (1975); Federal District Court for the Eastern District of Pennsylvania, Local Rule 22; Uniform Rules of Evidence, Rule 59 (1953). French law also preserves the right to call partisan expert witnesses. Travis, supra note 3, at 511.

39. He observed:

> Nor can the order be held unconstitutional as unduly interfering with the jury's determination of issues of fact, because it directs the auditor to form and express an opinion upon facts and items in dispute.

> The report will, unless rejected by the court, be admitted at the jury trial as evidence of facts and findings embodied therein; but it will be treated, at most, as prima facie evidence thereof. The parties will remain as free to call, examine, and cross examine witnesses as if the report had not been made. No incident of the jury trial is modified or taken away either by the preliminary, tentative hearing before the auditor or by the use to which his report may be put.

Ex parte Peterson, 253 U.S. 300, 310-11 (1920).

40. See, e.g., Scott v. Spanjer Bros., Inc., 298 F.2d 928 (2d Cir. 1962); Annot., "Trial Court's Appointment, in Civil Case, of Expert Witness," 95 A.L.R.2d 390 (1964); Van Dusen, supra note 1, "Exhibit A," at 396-97.

41. See Wright v. Central DuPage Hospital Association, 347 N.E.2d 736 (Ill. 1976); Comiskey v. Allen, 45 U.S.L.W. 2019 (7/13/76) (N.Y. Sup. Ct. 7/13/76).

42. F.R. Ev. 706, Notes of Advisory Committee on Proposed Rule, 28 U.S.C.A. at 518 (1975).

43. See Sink, "The Unused Power of a Federal Judge To Call His Own Expert Witness," 29 So. Cal. L. Rev. 195 (1956).

44. See supra note 14; Wick and Kightlinger, supra note 1, at 117-18.

45. See Van Dusen, supra note 29, at 508; Frost, supra note 4, at 19; Van Dusen supra note 1, at 394.

46. See Van Dusen, supra note 1, at 389; Levy, "Impartial Medical Testimony - Revisited," 34 Temple L.Q. 416, 417-19, 448-49 (1961); Peck, supra note 1, at 24; Frost, supra note 4, at 19; McNally, "Impartial Medical Testimony Plan - Its Operation and Results," Ins. L.J. (February 1960), 95; Wick and Kightlinger, supra note 1, at 120-22.

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